51st Year
No. 5

May, 1911

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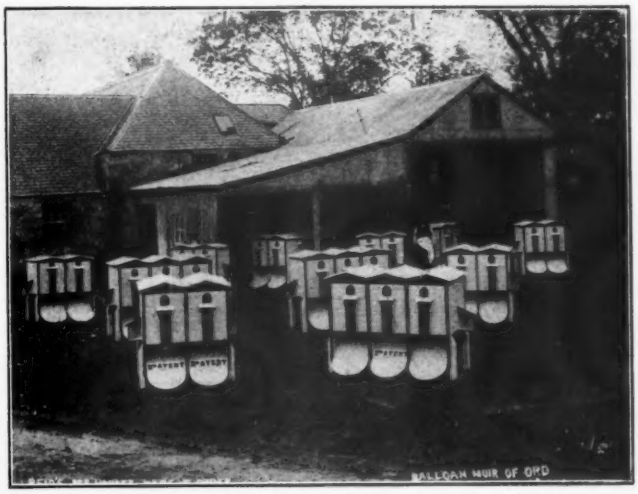
CALIFORNIA STATE

AMERICAN BEE JOURNAL

Nonogaki Apiary, of Owari, Japan.—See page 135.



Novel Bee-Hives of Scotland.—See page 144.

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AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
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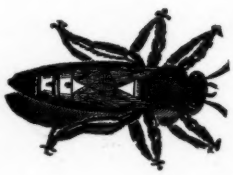
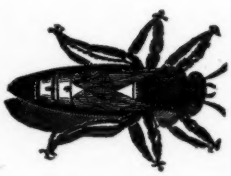
6 Queens for $4.50; 3 for $2.50; 1 for 90 cents.

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:



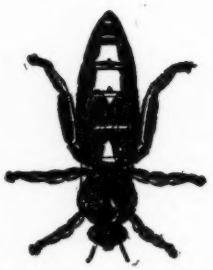
GEORGE W. YORK & CO.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine I introduced them among black bees, and the bees are nearly yellow now, and are doing good work.
Nemaha Co, Kan, July 15. A. W. SWAN.

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best. She keeps 9 1-2 Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week.
Ontario, Canada July 22. CHAS. MITCHELL



GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of the best colonies.
Washington Co., Va., July 22. N. P. OGLESBY.

GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O. K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee line. E. E. MCCOLM.
Marion Co., Ill., July 13.



We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is 90 cents, or with the old American Bee Journal for one year—both for $1.60. Three Queens (without Journal) would be $2.50. or 6 for $4.50. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

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Published Monthly at $1.00 a Year, by George W. York & Company, 117 North Jefferson Street,

GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., MAY, 1911

Vol. LI---No. 5

EDITORIAL COMMENTS

National Convention at Minneapolis

As announced last month, the next meeting of the National Bee-Keepers' Association will be held in the Court House at Minneapolis, Minn., Aug. 30 and 31, 1911. This will indeed be a fine opportunity for the bee-keepers of the Northwest to show how large and enthusiastic a gathering they will be able to have at Minneapolis. The National convention has never met in that part of the country, although it has been almost everywhere else during its over 40 years' existence.

We would not be at all surprised if the Minneapolis meeting would be the largest ever held by the National. The Albany convention of last year was certainly well attended, and it was a good meeting, according to the expressions of many who were there. We understand that the Convention Hall in Minneapolis will hold something like 500 people, and we would not be surprised if it would be crowded, as there certainly are many convention-going bee-keepers in that section of the country. Besides, there will no doubt be many bee-keepers who have never before been in the region of Minneapolis who will want to go there, especially at that season of the year when it will be cooler than the southern portion of our country. If we can have a program equal to the one at Albany—and it may be that it will be even superior—it will be a memorable meeting of bee-keepers of this continent.

It is held thus early on account of the requirement of the Association's Constitution for amending and revising; in order to do this the National meeting must be held at least 45 days before the National election, which is Nov. 1st. So this next meeting of the National will be a very important one, and it is hoped that the best ability in the ranks of beedom will be there.

Just following the convention the Minnesota State Fair will be held in Minneapolis. No doubt a good many bee-keepers will wish to stay over so as to see the wonderful bee and honey exhibit that the Minnesota bee-folks always put up at their State Fair.

The time and place of this year's National bee-convention being fixed thus early, the bee-keepers from everywhere will have time to plan to attend. There ought to be special cars of bee-keepers from different parts of the country, as that is one of the most enjoyable ways of traveling to conventions. We would suggest that it is time that the South get together at least one carload and attend the Minneapolis convention. California and some other Western States ought also be able to rally a carload each. From the East, beginning with New York State, there ought easily to be several carloads of bee-keepers who would be glad to come to the National convention and see something of the great West, although, of course, Minneapolis can hardly be called a Western city.

It seems to us that this meeting of of the National might easily be tbe best attended and most interesting and profitable of any the National has ever held. It ought to take some advance steps in the way of revising the Constitution so that the borders of its work and value to its membership will be enlarged, and that honey-production may be put upon a better business basis. To do this there will be need of the attendance of a large number who have real faith in the future of bee-keeping, and who will be willing to render all the assistance possible in order to inaugurate new departures along the lines of better organization and a more general co-operation among the membership.

We are sure that the Executive Committee, which is composed of the President, Vice-President, Secretary and Treasurer, will be very glad to receive suggestions for improving the Association, from any and all members who think they have some ideas that would help if carried out. Such suggestions could be considered at the convention, and no doubt from the combined wisdom of all there would result a more perfect organization and better results than have been possible heretofore from the National Bee-Keepers' Association.

Full Sheets of Foundation in Sections Profitable

Some use small starters of foundation in sections and some fill the section full. If these latter are asked why they use full sheets of foundation in sections, very likely the majority of them would answer that the sections are filled out in better shape, and the comb is better fastened. If those who use small starters were asked why they do so, very likely nearly all of them would answer that the small starters are less expensive. But that may be mistaken economy. Leo E. Gately made the statement in Gleanings that when full sheets of foundation are used there is a gain in the amount of honey produced over that obtained with small starters that varies from 5 to 25 percent. Commenting on this in the same paper, J. E. Crane says:

"If we call it 15 percent (and my own experience would place this estimate as conservative) on a crop of 50 pounds per hive, it would make 7½ pounds, which, at 14 cents, would be $1.05; and if we take out 25 cents for the value of the full sheets of foundation we still have 80 cents per hive as above, where starters are used, to say nothing of the improved appearance of the sections."

According to that, one is losing money by using small starters.

The Poison-Spray Problem

Being a constant reader of bee-papers, I have noticed a number of complaints of bees being poisoned through careless spraying of fruit-trees, or, rather, spraying at the wrong time. I believe the best thing to do is to educate the fruit-growers. My idea is for the bee-keepers to choose some good publication on fruit-growing, then see to it that some one who understands spraying thoroughly, both from the fruit-growers' point of view and also from the bee-keepers' way of looking at the question, write some good, short articles giving plain directions how to spray, and especially what time to spray, but not to mention bees, as some people may be prejudiced against bees. Then let each and every bee-keeper that has cause to believe there will be spraying at

American Bee Journal

the wrong time in his locality, have copies sent to all of his neighbors where he thinks it is needed. It ought not to cost much, and will be money well spent. The fruit-grower should get his copy just before the usual time of spraying. If he reads anything at all, it will be good advice, and at the right time. ILLINOIS RUSTIC.

On the face of it, it would seem that all that is necessary is to have fruitmen sufficiently well informed to prevent any possibility of spraying fruit-trees while in bloom. Leading authorities among horticulturists declare that no good can come from spraying during bloom, for the insects that are to blame for wormy fruit do not get in their work upon the blossoms, but on the young fruit after the blossoms have fallen. On the other hand, the poison does harm when it falls upon the tender stigma of the blossom, making it unfit to receive the pollen for the fecundation of the ovules. Intelligent horticulturists are also emphasizing more and more the fact that insect assistance is of exceeding importance in getting a crop of fruit to "set," and that in most places proper fecundation is dependent almost entirely upon the bees.

Now it would seem that under the circumstances the right sort of a man would hardly be willing to cause a severe loss to his bee-keeping neighbor by poisoning his bees, and even if he were utterly selfish, self interest ought to restrain him. Indeed so reasonable is this, that when the Illinois legislature was asked to pass a bill making it unlawful to spray during fruit-bloom, a prominent legislator, himself a leading authority among fruit-growers, opposed it on the ground that it was utterly needless, for no intelligent fruit-grower would be so stupid as to do a thing that would result only in injury to himself.

Yet facts are stubborn things. Among the personal acquaintance of the writer is a fruit-grower who sprays his trees before they have gone out of bloom. He is no ignoramus; he is a well-informed man, with a high standing as a horticulturist. He is not a bad man with no regard for the interests of his neighbors. He is a good man, public-spirited, and among the foremost in church work and in matters for the general public welfare. When remonstrated with for poisoning the bees that have come to do him a benefit by helping in the securing of a crop, and for causing a serious loss to the owner of the bees, he replies that his orchard is so extensive that unless he begins spraying before the last blossoms fall the earliest fruit will be too far advanced to be benefited by the spraying. And so he thinks that the loss to surrounding bee-keepers from his spraying during bloom is not so great as would be his personal loss if he should wait until all blooming has ceased. To say that he is mistaken is hardly to the point. He thinks his view is correct, and is conscientious in his belief. Now what good would it do to put into the hands of such a man literature such as our friend proposes? The only thing to meet the case is to have a law like the New York law, making it a criminal offense to use poisonous spray during bloom. There ought to be no difficulty in obtaining such a law, and there probably will not be, so soon as the complexion of the Illinois legislature is so changed that a rake-off for the jack-pot will not be demanded as the price of securing laws for the public good.

In the meantime it will no doubt be a good thing to make sound information as to the matter easily available, so that fruit-growers may fully understand as to their own best interests.

Swarming Prevented by Management

J. E. Chambers makes in Gleanings the rather startling statement that he has nearly 800 colonies of Carniolans, which have the reputation of being the greatest swarmers known, and yet he does not have over 6 percent swarming. He uses large hives at all seasons of the year, gives generous ventilation and shade, and says:

"But perhaps the most important reason why I have so little swarming is that I try to get every colony well started to gathering honey before the condition of the hive becomes crowded with young bees. With this object in view I winter all colonies with from 75 to 100 pounds of honey in the combs; and as soon as extensive brood-rearing is begun I extract clean—that is, if there is a flow on, or near at hand. This gives abundant room at the right time."

The Carniolan Gray-Banded Alpine Bees

A stroke of enterprise that challenges admiration is shown in the publication of a brochure of 20 pages having the above title, evidently printed in Carniola, and yet in the English language, in the interest of the Carniolan queen-trade. It is published "by the Imperial Royal Agricultural Association of Carniola," and is devoted to making known the good character of Carniolan bees. Industry and gentleness are claimed, and especially hardiness and prolificness. "Yea," says the writer, "the Carniolan Alpine bees are undoubtedly the most prolific breeders, the most severe winters they stand well, and in the spring they breed rapidly up." The pamphlet seems to be devoted to a campaign of general publicity, no mention being made of prices or of places or persons to order from, this being left to specific advertising. For those who want Carniolans in their purity, certainly here is their opportunity.

Smoking Bees at the Hive-Entrance

D. M. Macdonald says in the British Bee Journal:

"An Australian advises not to inject smoke at entrance when manipulating. Another says that Doolittle advises the contrary, and adds: 'I inject smoke at the entrance before raising the quilt.' I wonder, now, if many follow out this practice. I never found any necessity for it, and I question if for ordinary operations, it would do any good. More interruption of work and more confusion in the interior would result."

W. Woodley adds: "I never think of doing such a thing."

I must confess that I never manipulate a hive without first blowing a little smoke into the entrance, if smoke is used at all, and I must further confess that I have been ignorant enough to suppose that every one else followed the same practice. But when two such prominent writers object, it raises the question whether, after all, their practice may not be the usual and mine the exceptional. Referring to several text-books, however, I find instruction for an introductory puff of smoke at the entrance. Among these books are the excellent works of Messrs. Cowan and Digges. Apparently it is the usual way.

But sometimes the unusual way is the better way, and I, for one, would be glad to hear further from Messrs. Macdonald and Woodley, why they object to a first puff at the entrance. It is only fair, however, that I should say why smoking at the entrance *seems* to me a good thing. First, as to the interruption and confusion Mr. Macdonald mentions, if the sum total of smoke be the same in each case, will not the interruption and confusion be the same?

If I am correct, when a hive is jarred, the bees rush out of the entrance to attack the disturber, and a little smoke at the entrance quiets these guards, whereas smoke blown over the frames has no effect upon them. Without the smoke at the entrance, they rush out at the first jar, flying about the head of the operator, where the smoke blown upon the frames will have no effect upon them. These are the very bees I want quieted, and that's why I want to quiet them at the place where they are easily reached.

Now this is the way it seems to me, and if I am wrong I shall be glad to be shown my error. C. C. M.

Language—In Beedom and Elsewhere

D. M. Macdonald sticks to his use of "nuclei-forming." Of course. He's Scotch; and the writer hasn't lived all these years under the same roof with three Scotch women without knowing what to expect from a Scotchman. He says in the British Bee Journal:

"When I write of 'forming several nuclei,' why should I transgress against the rules of grammar and common sense by using the word for one when I mean a number more than one?"

In other words, he wants to know why he should say "nucleus-forming" when he is forming nuclei. Well, I suppose there is enough Yankee blood in me to give me the privilege of answering his question by asking another: "Why should he transgress—if it be transgression—by saying 'bee-keeper' when he means a man who keeps more than one bee?" Now if he will give me the answer to that question, I think that answer will serve as an answer to his question.

I do not insist too strongly on common sense, but as to grammar, that is supposed to follow the custom of the best speakers and writers, and I think on that ground it may be considered good grammar, in this case, to have the first word of the compound in the singular number, no matter how many are referred to. If Mr. Macdonald thinks "nucleus-forming" is not justified, then let him please say on what ground he justifies the following compounds: bee-keeper, cow-milker, dog-fancier, 24-horse-power, etc. If because he is forming more than one nucleus, he insists on "nuclei-forming," perhaps on the same ground he would insist on cows-stable, hens-coop,

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houses-building, doves-cote, slaves-driver, etc,

Then that Scotchman goes to throwing bricks at me by telling me of the bad English in use on this side of the water. Right enough; we do many bad things, but that doesn't make it right for us to do another bad thing that we know is bad; and we who are yet somewhat in the raw look for good examples from cultured men in the older countries. I confess with shame that I live in the land where "shook-swarming" was born, and am very glad to see that Mr. Macdonald repudiates it so far as to say he uses itonly in quotation, and says it is un-English and not Scotch.

He says: "I remember a dreadful word coined over there—'queenright.'" Beg pardon, that was hardly coined here. It's a direct importation from Germany, being merely a translation of the German word, "weiselrecht." F. Greiner was the importer, I think, and at the risk of losing caste in Mr. Macdonald's estimation, I must say that I have felt indebted to Mr. Greiner. "Queenright" seems to be needed to express what otherwise can be expressed only by the use of a number of syllables. Will Mr. Macdonald tell us the shortest way otherwise to express a "queenright colony?" C. C. M.

MISCELLANEOUS NEWS ITEMS

A Japanese Apiary.—The picture on the first page shows that in Japan they have as neat and up-to-date apiaries as anywhere in the United States or other countries where modern bee-keeping exists. We believe this is the first picture of a Japanese apiary that has ever appeared in the American Bee Journal. We are sorry not to have a description of it, and also something concerning its owner, but all we received was the picture, which, of course, is interesting. Some day Japan will be heard from along bee-keeping lines, which will show that they have been catching up very rapidly in adopting ideas and methods of the newer countries.

"Bee-Keeping in Dixie."—In this number we begin another new department, called "Bee-Keeping in Dixie," which will be in charge of Mr. J. J. Wilder, of Cordele, Ga. Mr. Wilder is one of the most extensive bee-keepers of the southeastern part of our country, having many years' experience. He will no doubt be able to give something of much value, not only to bee-keepers in Dixie, but also for those in other parts of the country. We would invite all bee-keepers who consider themselves in Dixieland to send their questions, etc., to Mr. Wilder, who will answer them in this new department, if of sufficient general interest; otherwise he will answer direct.

Owing to the large amount of important matter that seemed to be necessary to include in this new department this month, we had to put it in smaller type, being crowded for space.

World-Production of Sugar.—The International Institute of Agriculture gives out the following information as to the sugar of the world:

"The total sugar yield of the sugar-cane (*Saccharum officinarum*) in 1908 was about 5,161,000 tons; the production of beet-sugar appears to have been 6,527,800 tons.

"Java, with Cuba, produces most of the cane-sugar, and the greatest producer of beet-sugar is Germany.

"The production of maple-sugar in North America has greatly increased, but there is no hope of its extending greatly. It is the same with palm-sugar (India and Java)."

Bee-Inspection in Winter.—The question of inspection for foul brood in winter has been brought up in Colorado. One man's bees were inspected while he was absent; and several hives being declared foul were ordered by the inspector to be taken up. The owner resented the winter inspection, which had been made without his knowledge; but the work did not disturb the clusters, as it was carried on primarily to find any colonies that would be a menace in the spring. This inspection to find colonies that are dead from foul brood or infected will lessen the work in May, June, and July. No intelligent inspector will go into an apiary and open the brood-nests on cold winter days; but finding dead and badly affected colonies before there is any chance for robbing in the spring is a feature that will go a long way toward preventing the ravages of the disease later.—WESLEY FOSTER, in *Gleanings*.

Importance of Ferments in Honey.—The Bulletin of the Association Chim. (French) says:

"There are a number of diastatic, proteolytic and inversine ferments in natural honey, which give it its nutritive value. These enzymes are destroyed at a higher temperature than 70 degrees C., and do not exist at all in artificial honey."

According to the United States Department of Agriculture, these ferments continue to act after the honey is deposited in the cells, and it is a matter of importance to avoid destroying them by heat. Seventy degrees centigrade is 158 degrees Fahrenheit, and if honey be heated to 160 degrees, as is sometimes advised, it will be injured thereby. Perhaps it is wise not to go beyond 130 degrees.

Honors to an Old Bee-Keeper.—The following is furnished by Mr. C. P. Dadant, who has visited the bee-keeper mentioned:

At Grand Island, Nebr., on April 6, 1911, a reception was given in honor of Wm. Stolley on his 80th birthday and the 40th year of his services as Director of School District No. 1, southwest of the city.

Mr. Stolley is one of our most practical bee-keepers; he is one of the original settlers of his (Hall) county, and it is said that his record as wise manager of the school in question is the longest in the history of the State of Nebraska.

It appears that the entire school, many of the citizens, and the County Superintendent, managed the reception, which was an entire surprise to Mr. Stolley.

In an address by Miss Kolls, the school superintendent, Mr. Stolley was likened to his bees—thrifty, industrious, generous—all his life has been devoted to providing not only for himself, but for others, as is evidenced by his great hospitality. But he had come there in time of strife, when the country was new, and, like the bee, he had learned to defend himself, which he was fully capable of doing when he knew himself to be in the right.

Those of our bee-keepers who are acquainted with Mr. Stolley will heartily join in congratulations. May his example be followed, and each of us become an honor to the neighborhood where we live.

C. P. DADANT.

We, too, have met Mr. Stolley at several National conventions, and are glad to give place to the foregoing; also to join in the congratulations.

Manihot in German East Africa.—"The Bulletin of the Bureau of Agricultural Intelligence" gives the following:

"The introduction of Manihot in Dahomey furnishes a new source of honey for bees. In July, when it flowers, the wild bees neglect the native vegetation and prefer the Manihot. The abundance of flowers and the prolonged blooming of the Manihot allow the production of Ceara rubber to be supplemented with that of honey and beeswax. It remains to be seen whether this honey originating from an Euphorbia has a good flavor."

This Manihot seems to have been introduced from South America. Does any one know anything of its value in this country?

Early-Reared Queens.—Here is something from F. Dundas Todd's Bee-Bulletin for British Columbia that should be heeded as well by the inexperienced bee-keeper outside of King George's dominions:

"Queens reared in a weak colony during fruit-bloom are of very little value, and are almost sure to be supplanted again in June or July, provided they live that long. There is also great risk that they will fail to mate on account of the cool weather. The writer has had queens hatched out in the end of April and do all right, but the instance is rather unusual. Most bee-keepers have little use for a queen that is not reared during the normal swarming season, or in the time of the honey-flow."

Prices of Honey and Butter.—D. M. Macdonald says in the British Bee Journal:

"Hereabout some years ago, 1 pound of honey would buy 2 pounds of butter. Nowadays 1 pound of the one about meets the cost of the other."

In this country, 40 or 50 years ago, it was the common thing for honey and butter to stand at about the same price, just as the rule is in Scotland today. Now, the pound of butter that will buy a pound of honey in Scotland will buy 2 or 3 pounds of honey in America. Queer world.

Whey for Bees.—Dzierzon was rather enthusiastic about feeding milk to bees. Now comes from France the following:

Boiling water, 9 parts; fresh whey, 9; granulated sugar, 16; very fragrant honey, 5½; phenix syrup (whatever that may be) ½.—*L'Industrie Laitiere.*

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German Honey-Booklet.—This booklet of 56 pages, published in the German language, has for its object the popularization of honey as an important food and domestic medicinal remedy. Some idea of the nature of its contents may be had from the headings of chapters:

What is Honey; Honey Adulteration; How to Recognize Pure Honey; To Detect Adulterated Honey; How Bees Gather and Prepare Honey; The Chief Sources of Honey; The Different Varieties of Honey; Honey in the Household; Honey as a Medicine; Honey and Wine; Recognition of Honey by Authorities; Bee-Poison as a Remedy.

The little work seems to be ably prepared by its author, Prof. Reinhold Michaelis, and is published at Leipzig at the price of 40 pfennigs, by Alfred Michaelis. That the work is appreciated in Germany is shown by the fact that this is the 4th edition.

Old vs. New Section Foundation.—Frequently the question is asked whether it is advisable to use comb foundation in sections that has been left over from a previous year. Such foundation may be readily accepted by the bees, and it may be utterly rejected. G. M. Doolittle puts the matter very nicely in the following words in Gleanings:

"The experiments I have made during the years which have passed since I began to use thin foundation in the sections have convinced me that foundation 5 or even 10 years old is just as good as when it first came from the mill, if it has not been on the hives during the latter part of the season through a period of scarcity. If sections are left on the hives after the harvest, and propolis enough is gathered so that the unused foundation is varnished over, this propolis-painted foundation should be cut out of the sections, melted, and replaced by fresh."

Shipments of Mexican Honey.—The exports of honey from Tampico to the United States during 1910 amounted to 43,575 gallons, valued at $21,380 gold, an increase of about 66 percent over 1909, says Consul Clarence A. Miller.

The greater part of the honey is the wild product, and is brought in from the Huasteca section and Tuxpam. Among the flowers that are abundant are the century-plant and the "lion's tooth," which are much sought after by the bees. A species of mesquite known as algorroba furnishes an abundance of blossoms and a sweet sap, and the bees frequently hive in the hollow trees of this variety. The bees of this section are of the large yellow variety. The seasons for gathering honey are from May to July, and from September to November.—*American Food Journal* for February, 1911.

Moving Bees Short Distances.—Until recently it has been considered an unsafe thing to move bees in warm weather unless they could be moved a mile or more. But by fastening the bees in the hive and then giving the right kind of disturbance long enough, it seems bees can be moved any time of year. Clint F. Pulsifer, in Arizona, had 40 colonies to move about 25 rods in warm weather. He says in Gleanings:

I closed the entrances early in the morning before the bees were flying; placed the hives in the spring wagon, and took them to the new stands. This was done before 4 p.m., and at about that hour (which was about one hour before sunset) we began *drumming* them and smoking them alternately for nearly half an hour, then we removed the entrance-closers as speedily as possible and gave the bees a few moments' flight before dark.

The following day I made it my business to visit the old stands several times and see if it was necessary to place hives there for the returning bees to save the loss, but it was quite unnecessary, for I think I could have carried them all in a Benton cage; and I have reason to believe that the few that were remaining had slept out of doors the night before they were moved.

Bee-Keeping in Florida.—E. G. Baldwin says in Gleanings that in Florida the summer temperature is seldom higher than 94 degrees, and in winter seldom lower than 30 degrees. "Four-fifths of all the surplus honey produced in the State comes from the blossoms of nectar-producing trees or shrubs, *not* flowering plants."

Bee-Keeping in Texas.—The following account of the doings of bees and bee-keepers in Texas, written by Wm. E. Curtis, is taken from the daily Chicago Record-Herald:

With other distinctions Texas is the great bee-State of the Union, and produced more than 15,000,000 pounds of honey last year, valued at $3,500,000. While it is impossible to obtain definite figures, it is estimated that there are 600,000 colonies of bees in the State valued at $5,500,000, and it is known that they are increasing very rapidly. They are mostly Spanish bees, descendants of colonies that were brought over by early immigrants, and at first were kept in a primitive manner. Square board hives were used and colonies were often sacrificed in securing the honey. But, like cows and steers, the bees have been bred up and improvements suggested by scientific investigation, have elevated apiculture to a high plane and a profitable basis. Bee-keeping is so profitable that ordinary farmers have become specialists, and colonies are counted by the hundreds where there were only dozens before.

The most favorable locality is along the Nueces River, where are vast areas of flowering plants and trees that are loaded with sweetness, and naturally the center of the industry is at the town of Beeville, Bee County, down in the corner of the State where the railroads from Houston and San Antonio meet, perhaps 30 miles northwest of Corpus Christi. The greatest apiary in the world is there, with 8000 hives of bees owned and managed by the same man. Beeville is the only town and Bee County is the only county, I suppose, that were ever named after the busy bee. The former has a population of about 3500, and the county of about 8000. More than 1,000,000 pounds of honey are shipped every year.

It is a curious fact that bees insure large fruit crops. This is not a boom story, but a scientific phenomenon, and is due to the industry of the bee which, flitting from blossom to blossom in its work of gathering honey, distributes the pollen, fertilizing the blossom, thus assisting in the production of the fruit. That task is usually left to the breeze, which is never as reliable as the bee.

There are large manufactories engaged exclusively in making hives, honey-frames, boxes for shipping honey, and other supplies for bee-culture which are not found in any other State, and bee-ranches are increasing so rapidly that it is difficult for them to supply the demand.

Mr. Curtis is one of the ablest, most experienced, and most reliable newspaper correspondents in the whole world. Yet, somehow, when it comes to the matter of bees, the general writer, be he ever so reliable, is likely to make slips, and while the foregoing is more reliable than one might expect to find from a writer not an expert in the matter of bees, still there is left room for question as to one or more of the statements made.

Take that last statement: "large manufactories engaged exclusively in making hives.....which are not found in any other State." It is hard to understand that as meaning anything else than that outside of Texas there can be found no large manufactory engaged exclusively in manufacturing things for bee-keepers. It looks asif some of those Texans had been stuffing Mr. Curtis, showing up the big amount of bee-supplies made in Texas without hinting as to the bigger amounts made elsewhere. Well, one can hardly blame them for telling all of the truth about Texas, but one can hardly hold guiltless so experienced a newspaper man as Mr. Curtis for not informing himself as to matters outside of Texas.

Mr. Curtis lays aside his usual shrewdness at careful investigation, and *supposes* that Beeville is the only town and Bee County the only county ever named after the busy bee. How far wrong that supposition is from the truth may be seen in part by reference to the United States Postal Guide, without looking up all the rest of the world. It may not be far out of the way to suppose that when a post-office is found having a certain name, as a rule a town of the same name will also be found. Besides Beeville, no less than 23 other post-offices are named presumably after the bee. Nine different States have each a post-office named Bee; 2 post-offices have the name Beehive; 2 are named Beecreek; and the following 10 post-offices may also be found: Beeranch, Beecamp, Beecaves, Beegum, Beehouse, Beelick, Beelog, Beespring, Beesville, and Beetown.

Evidently Texas has no monopoly of towns named after the bee; but it does have the distinction of being the only State having a Bee county.

Is not this the first time that the statement has appeared that the greatest apiary in the world is to be found at Beeville? Perhaps some one will tell us more about it, and will also tell us whether reliance is to be placed on the statement that every year more than 1,000,000 pounds of honey are shipped from Bee County.

Pecos Valley Convention.—The annual meeting of the Pecos Valley Bee-Keepers' Association, of New Mexico, will be held at Rosswell, N. M., at 9 a.m., Wednesday, June 9, 1911. Business of importance will come before the convention. All lovers of the honey-bee are invited to meet with us.

R. B. SLEASE, *Pres.*

H. C. BARRON, *Sec.*

The Seven County Convention.—The Seven County Bee and Poultry Keepers' hold their semi-annual convention at Brookville, Pa., June 7, 1911, and they will be glad to have the readers of the American Bee Journal meet with them.

A. M. APPLEGATE, *Sec-Treas.*

From following the instructive reading in the American Bee Journal for the year 1910, I have saved $25 on my bees.

MRS. A. A. GOOD.

Arlington, Wash., Dec. 17, 1910.

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BEE-KEEPING FOR WOMEN

Conducted by MISS EMMA M. WILSON, Marengo, Ill.

Bee-Keeping as an Avocation for Women

Some time ago I heard a man remark, "There's no occupation under the sun where women don't crowd in now-a-days." The man was mistaken. Women are not crowding in, they have long arrived and taken their place side by side with man, efficiently helping along with life's work. In one respect the man was right; there is hardly an occupation under the sun that woman has not or is not trying her luck with, and bee-keeping is one of the many. How far back there have been women bee-keepers, or how many there may be now, I could not tell; but I know that bees can be kept by women as successfully, financially and otherwise, as by men.

There has been much nonsense written in papers about a veilless and gloveless, as well as laborless, lucrative bee-keeping for women, children and invalids. Bees can be worked without veil or gloves, I admit, but the woman who embarks in bee-keeping with an idea of taking her fancy-work into the apiary and sit contentedly watching her bees gather the honey for her, will soon conclude that if she wished to realize the profit from them she is probably anticipating, she would better don veil and gloves and do some honest work, and do it when her interests demand it, and not only at times when the bees happen to be in the mood to be worked without antagonism.

When I was requested to write this paper on "Bee-Keeping for Women," I found the only thing I could tell was my own experience as a woman bee-keeper, and this I have endeavored to do without any attempt at rose-coloring or discouraging.

When my father died, nearly 4 years ago, mother and I suddenly found ourselves with 225 colonies of bees on our hands, the principal care of which depended upon me. Although an experienced bee-keepers' daughter, I was disgracefully ignorant of the proper management of bees. Father had always had help to work his bees, and the honey-house work had been my share, and as I was about as fearful of a bee sting as of a snake-bite, I went near them as little as possible, and excepting a few times when I had gone out with father to smoke for him and do a little handling, I had never ventured into the bee-yards.

About the first thing I did was to get a pair of good, safe rubber gloves. They were so stiff my hands felt like done up in splints, and gave me more discomfort than a goodly number of bee-stings would have done. Fortunately they did not last long, but soon began to split and break. I have since found a thin leather or light canvas glove is best suited for the work.

The spring of 1907 was late and generally unfavorable for bees in our locality. Spring dwindling had reduced our number of colonies to about 200. Of these we moved 80 to an out-apiary on May 24th. Apple-trees were then just beginning to blossom, and the bees that had by this time become alarmingly light of stores, literally filled up during the bloom.

Some time later when I went to work this out-apiary, the first thing that greeted me on my arrival was an immense swarm of bees high up in an apple-tree. While I was lighting up the smoker and getting ready for work, another came tumbling out. I hurried to look for the queen, and back of me came another, and still another. The whole air seemed filled with swarms, and I felt like swarming out, too, and leaving the bees to their own sweet will! I found consolation, however, in the knowledge that I had faithfully clipped every queen's wings early in the spring, and that they could not get away from me no matter how hard they tried. I had read in a bee-book that it takes 16 days for a queen to hatch from the day the egg was laid. On this I relied. I went through my bees and assiduously ripped out not only every queen-cell, but every queen-cell cup that had anything in it resembling an egg. When on the 12th or 13th day after this I again visited the bee-yard, confident that I was getting around in plenty of time, I was painfully surprised to find many young queens hatched, and more swarms had taken to the woods or filled neighbors' dry-goods boxes than I would like to tell, and I indignantly concluded that there was something dead wrong and misleading about those bee-books. Had I pursued more carefully I would also have read that when bees have larvæ they will rear a queen in 10 days.

Early in July a sister came for a visit. For years she had been in the habit of spending the two months school vacation at home, and had helped father quite a little with the bees, and consequently knew more about handling them than I. After that things ran smoother.

The first summer was hard, and we made many mistakes. To make matters worse it was a poor season in our locality, owing to the extremely late spring and succeeding

MISS HETTIE E. HOFFMAN.

severe drouth. From our 200 colonies we harvested some over 6000 pounds of comb honey, and about 2000 pounds of extracted.

The season of 1908 again proved a poor one, owing to the same conditions of drouth as in the previous summer. But 1909, however, gave us a good crop of fine-quality honey.

I found that 200 or more colonies was more than I could properly manage with numerous other duties depending upon me, so we gradually reduced our number to about 170. From these we harvested, the past season (1910), 11,500 pounds of comb honey, and about 2200 pounds of extracted.

The work in producing these crops was all done by women, with the exception of putting the bees in and out of their winter quarters, moving them to and from the out-apiary, and drawing the honey to the freight-house when it was ready for shipment. For this work we hire neighbors.

Mother and I make all our supplies, including the comb foundation and extracting the honey. My only help in working the bees is my sister the two months she is with us. A 15-year-old niece assisted with the finishing of the sections the past season.

Bee-keeping for women, although a healthy, and for the most part pleasant, occupation, is by no means all easy work. To carry tons of honey from the hives into your honey-house, or bend all day over bee-hives, handling and shaking heavy combs, would soon scatter illusions to the winds, and probably end in prosaic back-ache and kindred complications for a woman not accustomed to strenuous work. For a woman to plunge into bee-keeping with the hope of at once deriving a competent income from it would, in most cases, end in discouragement and failure. If, however, she is content to begin with a few colonies, and study the habits and management of her bees before she ventures deep, she will in time find it a remunerative business. She will also find her endurance growing with her colonies, for cultured woman is but the weaker sex, because for centuries she has pampered herself, and allowed herself to be pampered. The peasant women of Europe who go into the fields and work, shoulder to shoulder with their men, are as strong as men, and the women of savage tribes are fully capable of performing the burden of the work thrust upon them. The practice of wheeling a barrow to and from the bee-yard is better exercise for gaining health and strength than swinging dumb-bells or subjecting the body to various contortions in physical-culture practice.

Remuneratively compared with other occupations, bee-keeping has its advantages as well as its disadvantages. A woman, able to work, can successfully handle from 125 to 150 colonies of bees with little extra help. In a fair season, if properly worked, they will net her an income quite a little ahead of her sister who teaches, or works in factory or store. But to the bee-keeper, every year does not bring a good crop. The season for the actual honey-flow is comparatively short, and if during these few weeks the weather is unfavorable, or as is sometimes the case, the blossoms yield little or no nectar, the crop will be short, or even a total failure, manage or work as faithfully as you will. Then there is capital invested, and the responsibility and risk of ownership, the burden of which the employer carries for the woman working for wages. But, while for the wage-earner, in most cases, it is an all-year-around, monotonous performance, for the bee-keepers, after a summer of invigorating outdoor life comes a period of rest, for while your bees are taking their long winter sleep they need little if any attention. Certainly the wise bee-keeper will get ready as many supplies during the winter months as possible, if he or she does not wish to be caught in a summer rush, that is anything but pleasant. But even this working ahead will leave plenty of time for rest and recreation.

The woman who keeps bees lives and works at home, and can attend to her household and family duties besides her bee-work, even though some minor details may be neglected during the busy season. There is much easy, agreeable work connected with the business that will keep the growing boy or girl out of mischief.

There is always a ready market for good honey. Dealers are usually looking for comb honey put up in neat, attractive packages, and properly graded. This work is especially adapted to women. The best way to dispose of a crop of comb honey is to ship it as early as it can be gotten ready for the market. Sell it outright for cash, if possible, if not, ship it to a reliable commission-house. Nearly all our extracted honey is sold at home. The honey is put up in 5 and 10 pound pails as soon as extracted, and allowed to granulate. The labels on our pails tell our customers that pure honey will granulate, and also give directions to liquefy the honey if so wanted, and we have yet to hear of a complaint of "sugared" honey.

The woman keeping bees can, if she will or must, do all her own work. A woman can not very well farm it alone. She must hire men to do the heavy work, and by so doing she becomes dependent.

While bee-keeping is not a "get-rich-quick" business, and probably never will put man or woman in "millionaires' row," it will provide a comfortable income for the right man or woman. It is an interesting, ever new and broadening study, bringing one close to Nature, and for the bee-keeper the every-day life easily becomes the ideal simple life.

HETTIE E. HOFFMAN.

Canajoharie, N. Y.

Miss Hoffman's delightful article puts things in such a common-sense way that it is easy to believe that it comes from real experience in the bee-yard. One point in it is likely to awaken controversy. When 200 colonies proved too many to take care of, along with what other work had to be done, was it wise to reduce the number as did Miss Hoffman? That certainly is not following the advice of our good friend of the Bee-Keepers' Review, whose slogan is, "Keep more bees." Would it not have been better to have hired help

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to do some of those "numerous other duties" that made 200 colonies too many? Very likely that would be so in many cases. With men it would oftener be so than with women. The work that a man finds to interfere with his bee-keeping can often be as well done by some cheaper help. But a woman's work falls largely in the line of home-making, and it often happens—generally happens—that if the home-making be delegated to some one else, the home will not be so home-like. At any rate, the sympathies of the present writer are entirely with Miss Hoffman in preferring to keep the number of bees down to that point where some time would still be left for home-making.

Miss Hoffman quotes the books as saying that when bees have larvæ they will rear a queen in 10 days? Is that really a well-established fact? Opportunity for very extended observation "in this locality" makes it pretty safe to say that when a colony having brood becomes queenless it will be 12 days before a young queen emerges, presupposing, of course, that no queen-cell was started at the time of becoming queenless. Occasionally that 12 days has become 11, but if there was ever a 10-day case, it escaped observation. Certainly the thing must be so rare as to be hardly worth taking into account.

[We may say further that Miss Hoffman's interesting paper was sent in by Mr. W. D. Wright, vice-president of the National Bee-Keepers' Association, who requested its preparation for a bee-keepers' institute held under the auspices of the New York State Department of Agriculture, at Utica, N. Y., Dec. 18, 1910. Mr. Wright also kindly secured and forwarded the accompanying photograph of Miss Hoffman. She is a daughter of the late Julius Hoffman, inventor of the "Hoffman frame," so well known to bee-keepers everywhere.—THE EDITOR.]

BEE-KEEPING IN DIXIE~

Conducted by J. J. WILDER, Cordele, Ga.

"Bee-Keeping in Dixie"

Hello, Mr. Bee-keeper! We want to be recognized under the above heading, and take our stand for more or better bee-keeping in Dixie, and that some rays of light may shine forth from this dark and benighted corner of beedom.

Dixie is not only the "Land of Cotton," but is also the land of bees and honey, and opportunities for those who love the business and properly follow it. The bee-keeping world looks upon Dixie (all the Southeast) as the dark corner, because log-gums, box-hives, and the unimproved races of bees have predominated, and that bee-literature has been so slow penetrating into this great section. The dawn of better days is upon us, and to help hasten development of our industry here our bee-publications are giving more than the usual amount of space to this section. Wherefore comes our Department "Bee-Keeping in Dixie;" and our entire body of bee-keepers is called upon to contribute to our corner, and to render appreciation to the Editor of the American Bee Journal. To whom be thanks.

Departments of Beedom

I believe the editors of our bee-publications are more and more endeavoring to reach and help through the medium of their papers all classes of bee-keepers in all kinds of locations. Through them bee-keepers for miles around can obtain information of those in similar locations and under similar conditions. I am yet to meet a bee-keeper who had a cut-and-dried business. We are all on the alert, or grasping for helpful ideas, and through the departments they can best be obtained, as well as general information.

I used to think that different locations played but little part when it came to the practical side of bee-keeping, but now the more I know about bee-keeping at home and abroad, the more I am in sympathy with bee-keepers in different localities.

Then, too, it is often remarked, should the old contributors to our bee-publications consume so much space if fresh ideas could be obtained from many sources? I don't know whether they would be any better or more effective or not, but I do know that even a great number of contributors can never solve our every-day problems. They may give us a lot of general information, but this is only a small part, after all. It is the seemingly small, or less important, unnatural or unexpected occurrences that comr up before us individually, while about ou apiary work, that are most vital to our suc cess; and here is where our reasoning powers must be exercised.

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A Little Bee-Meditation

If all the printed matter on bee-culture I have ever read could be collected, it would indeed compose a very small library, and if I had my bee-keeping life to live over I would read less and think more. When it comes to success, much serious meditating is essential, and all other forces gather up around it. I am glad to say that I have met only a few who had made a straight-out failure at bee-keeping, and one in particular was a "book-worm." He never formulated any plans or solved any problems, yet he had read almost everything that had been printed on bee-culture, and was well posted; but when it came to the practical side of the business, he was a total failure, although he had considerable experience in the work. He had to consult the "text" on everything he went about to do, and had no confidence in himself or his own judgment, but totally relied upon what had been written on the subject.

Now don't understand me to say that we should not read bee papers or books on bee-culture. Far from it. We should by all means buy all that we are able to buy to read on the subject. O! how good, instructive literature brings us up to the thinking or meditating point! But right here it leaves us to put our own reasoning faculties in force. Especially is this true since the operating of apiaries is so widely different in different localities, and the management of the bees necessarily be changed to suit conditions which do not prevail in all locations.

A Discouraging Prospect

MR. WILDER:—I have always had good crops of honey, but it will be a total failure with me this year; and, besides, I may lose all my bees. I have only 100 colonies left, and about 100 bees to the hive. I am "up against" something I have never experienced or heard of before. My bees were blacks, Italians, and Carniolans.

Lumber City, Ga. W. M. ROGERS.

I wrote Mr. Rogers to unite and feed, and he replied that he was completely out of the bee-business, and said that the bees had stores, and, besides, there was nectar in the field. He said further that there were no young bees reared during winter and early spring, and that the old bees died out rapidly.

Mr. Todd, of New York, experienced about the same thing at Jesup, Ga., a few years ago, and I know of other similar cases. I have never experienced anything like it. In locations where my main honey-flow comes latest, the bees usually breed up too fast. I have quite a number during the year of what I call "suiciders," which seem to be determined and settled on going to nothing, but this occurs mostly among the weaker colonies containing old queens, but sometimes strong colonies will do the same thing—swarm out, and leave their brood and stores, and settle and perish, or attempt to enter another colony. Of course, the robbers will take possession of their stores at once, and the moth their comb. When I think a colony has started to dwindle down, I reduce the amount of comb to where they can cover it well, and I believe this does reduce the number of "suiciders." It is certainly safer under these conditions to have the queens occupy one or two combs well, than to occupy poorly a greater number. For fear of deserting I afterward unite, add brood, and requeen—even then the number of "suiciders" is great enough.

Sluggishness of queens at certain times, dwindling and deserting, are common occurrences, and bee-keepers are becoming more and more alarmed over the situation. I think it is time for the bee-keepers to rise up and say something on the subject.

The Next Honey-Flow

By the time this is read the spring or first honey-flow will be off, or passing off, and all honey should be removed and put on the market, and the comb or chunk honey supers not containing ready-built combs left off the hives and prepared to be given back to the bees at the approach of the next honey-flow, which we should begin preparing our bees for as soon as we can turn loose from the spring honey crop.

There are only a few locations in Dixie where the bee-keepers are not entitled to one or more good honey-flows before winter, and they are much surer than those in the spring, because weather conditions are usually better. But, alas! only a small percent of the bee-keepers harvest a crop of honey during these flows, simply because they do not prepare their bees for them. They seem to expect only a spring honey-flow, and as soon as they sell what little they harvest during this time they are ready for a vacation or outing, or lay aside bee-keeping and take up something else until next spring, when, of course, the bees, in a way, will naturally prepare themselves for the flow.

Now let us talk some about the stock of our bees before we go back to the unimproved bees. When I kept only the common, unimproved bees I, too, had only a spring harvest of honey, and now where I don't have the improved stock I get only a spring crop of honey. On the other hand, where I have the improved stock my summer and fall harvest about equals the spring harvest, and there a great difference in the return at the wind-up of the season, and the bees are in far better shape for winter.

I believe some bee-keepers are prejudiced against the common stock of bees, better known as blacks, and they have a reason for believing that they are most unsuitable for them. In locations where it is possible to have but one honey-flow, and that in early spring, the blacks are just as good as any bees. Some bee-keepers seem to think that the blacks can be greatly improved as honey-gatherers. I think this is hardly probable, because their queens will not breed up as they should after early spring. It matters not how much they are stimulated, they will lay only scatteringly about in the brood-nest, and here and yonder a bee will be developed. I have never known a queen of the black race of bees to compact the brood sufficiently to produce bees enough to harvest a crop of honey after spring, consequently the later flows pass off and are hardly detected, and the bees even go into winter quarters in poor condition, and losses are almost sure to occur. This point of objection to the blacks is hard to overcome, and stands good almost everywhere, and we are "up against it" when it comes to improvement.

Now for the unsupered colonies, the supers are out of the way and we are ready for a general inspecting tour from hive to hive, to see what we can count on for the next

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honey-flow. On this tour we will find some queens the services of which we are not pleased with, and the colonies with such queens should be marked and replaced as soon as possible with young queens of your own rearing, of the best stock obtainable, if you are in a position to rear them. If not, they should be bought of some queen-breeder.

Will it pay to requeen these uncertain colonies even if we have to buy the queens? It will, and there is no doubt about it. These colonies can be put right to the front in the honey harvest, and the first step is to requeen. The money invested in good queens at this point or time of the season will give greater and quicker returns than any other time of the year. All losses are sure to occur among the doubtful colonies at this season of the year; besides, the approaching honey stock is at stake. By all means requeen these colonies in some way.

"Where Can I Sell My Honey?"

By the time this edition of the American Bee Journal reaches its readers the bee-keepers in Dixie will have the bulk of their spring honey crop harvested and ready for market, and the question will be, "Where can I market my honey to the best advantage?"

There are some bee-keepers who are fortunate enough to have their entire crops of honey sold even before they are harvested, and the market or customers waiting for them. There is a much larger class of bee-keepers who have a list of customers, and an idea where they can at least dispose of a portion of their honey crop at reasonable prices, but for the remainder of the crop no ready market. I have been at this point in disposing of my honey crop more than once, and I have drummed from station to station, and from town to town, and have had mammoth exhibitions at fairs, and I have advertised extensively in the leading newspapers of my county, etc. Of course, these earnest efforts have greatly helped me in marketing my honey, but of late years I have fallen upon a more effective, sure, and satisfactory way of disposing of my crop of honey, and that is through the wholesale grocery houses. Such houses or establishments are found in every city, and in every town of any consequence or size. These wholesale provision houses have men employed, better known as drummers, who traverse the country for miles around, visiting weekly every retail grocery store whose sole business it is to sell eatables, or other things which are commonly found in grocery stores. And they usually sell along their trips everything that can be sold in their line. These drummers are experts when it comes to talking up a business and making sales, and right here is where we bee-keepers can be best represented.

Now, how shall we get them to take hold of the marketing of our honey? Go to the general manager of the wholesale grocery, take along a few sample jars or cans of your honey, such as you commonly put up (or a few sections of honey, if you produce it in this way), and show him what you have, the manner of packing, about how much you will have, and name the prices you will expect delivered to him. He will tell you that he will let his men take out the samples next week, along with his samples of candy, preserves, jellies, syrups, etc., and see what can be done. He makes a price, of course, allowing him a certain amount of profit, and sends the samples out with his men; they bring back a bunch of orders, and you will be notified at once to bring in so much honey, in such and such packages. The next week the same thing occurs, and so on until you have disposed of all the honey you have to offer, if you are not swamped with orders.

Very often these wholesale grocers will buy the entire crop of honey, and, as a rule, you can sell to them for better prices. Another good feature about this way of disposing of honey is, the returns are ready, and sure.

The Gus Dittmer Co., of Augusta, Wis., have completed a solid, concrete re-inforced beeswax melting house, with roof and floor of the same material. It will be a great addition to their comb-foundation plant, and, of course, entirely fire-proof. Like other manufacturers of comb foundation, they report a good season thus far this year.

CANADIAN BEEDOM

Conducted by J. L. Byer, Mt. Joy, Ontario.

Backward Season

The season is very backward here in Ontario—about three weeks later than last year, so far as the gathering of pollen by the bees is concerned, if I remember correctly. Today (April 20) one colony was carrying in a little pollen for the first, and strange to say not another colony in the yard was getting any, so far as I could observe, and I spent nearly an hour watching the bees at work.

Although a late season, after all it may turn out more favorable than last year, for although the weather in March and April of a year ago was very warm and springlike all the time, we paid for that favor later on when we had one of the coldest Mays on record.

From reports received so far, I judge that the bees have wintered fairly well all over the Province, both inside and outdoors.

Moving Bees on Hand-Sleds

On page 103, mention is made that the writer last fall successfully moved an apiary on hand-sleds. After the moving of those bees was accomplished, we certainly thought it was done successfully, and so reported in one of the bee-papers, but I am sorry to have to report at this later date that, on the basis of the old saying, "All's well that ends well," the moving was not a great success. On the day of moving the weather was cold—nearly down to zero—and the following night it was below that figure. The next 3 weeks was the coldest spell of the winter, and these unusual conditions doubtless were adverse to the best interests of the bees that happened to be moved in such very cold weather. At the time of moving the colonies seemed to be disturbed but very little, but conditions, as revealed later on, showed that they had broken cluster more than I had imagined. About the end of February a few colonies showed signs of dysentery, and up to the present some 8 or 9 colonies have died, and about that many more are reduced in bees.

On examination of the hives in which the bees perished, conditions seemed to point to the fact that the clusters were broken up by the excitement of being moved, and that owing to the very cold weather prevailing at the time many bees failed to get to the clusters again, and perished in small bunches among the combs. At least 3 colonies of the number that perished had division-boards in the hives for the purpose of crowding the bees into closer quarters, as considerable feeding was necessary to put them into shape for winter. Well, behind these division-boards the dead bees were piled on the bottom-boards about 2 inches deep, a circumstance that seems to point to the theory of the bees failing to regain the clusters.

As the loss in wintering is practically *nil* among all the other bees in the 3 apiaries away from home, I am at a loss to place the cause of the poor wintering at the yard that was moved, unless we attribute it to the moving done in cold weater. Yes, I know that many bees have been moved in cold weather with no bad results, and I have moved bees in that way myself in times gone by. But this last fall and winter was a very exceptional season, in that the bees had no flight after Oct. 26, and then not in the spring until March 13.

Temperature of Cellared Bees

The writer declines being drawn into a further discussion of the question of temperature for cellar-wintering of bees, even if Dr. Miller has so carefully and enticingly baited the trap—see page 110. As I have repeatedly said, my experience is so limited in cellar-wintering that I deem it unwise to make any personal recommendations in the matter, and prefer to be rather a "free lance" when speaking of the subject, and simply give the views of the "other fellow."

Mr. Davison is well qualified to speak for himself, but, unfortunately, like many more good bee-keepers, he declines to write anything for the bee-papers. His bees have wintered perfectly again this year, as is about always the case with his system of management, be it good or bad.

As to his thermometer being faulty, I can not give anything positive on that line, but as he keeps a general store and has thermometers for sale, it seems reasonable to assume that he would have a correct one for himself.

The writer would not think of advising all to keep their cellars at that figure (35 degrees), even if it would be only beginners likely to be affected adversely by such advice—certainly the "old birds" rarely take *anybody's* advice very seriously until they have found by experimenting on a small scale as to whether said advice is sound or not. But Mr. Davison's continued success with a cellar much cooler than ordinarily recommended, does at least prove that for *his* management and for *his* bees and cellar, the lower temperature is decidedly to be preferred, as after many years' wintering he has proved that his bees are the quietest at the figure named, and come through the winter in grand shape every year. To my mind there is no question but that the open window is one of the prime factors that insures good results in a cellar that is for some reason much warmer than those of the ordinary run, and I am quite ready to agree with the Doctor, that in a cellar with a temperature so low as mentioned, with no open window, quite different results would be apt to occur.

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SOUTHERN BEEDOM~

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

"The Battle for Honey"

Some time ago the editor of this department received a copy of an article with the above title, which appeared in "Orchard and Farm, Combined with Irrigation," published in San Francisco, Calif. It was written by one of our well-known writers, and one of whom much has been said of late—one whom the writer is proud to see in the field of apicultural writers. But there is a question that I would like to ask after reading the following paragraph, which was taken from the above-mentioned article:

"This battle for honey is becoming more and more a winning one, as is evidenced by the hundreds of cars of honey shipped out of the West to Eastern markets. *California leads all States in the production of honey, and Colorado comes a pretty close second*, while New Mexico, Arizona, Utah Nevada, Idaho and Wyoming all produce more honey than is consumed within their borders. Alfalfa is the chief source of honey in these States, except in California, where sage and orange blossoms combine to put *California clear to the front of all other States.*"

Now here is the question: Where does Texas come in for her place? Can it be denied successfully that the great Lone Star State—the State that has had more good honey seasons on the average, and a larger output annually from within her vast proportions and area—is not and has not been entitled to first place? According to the above, she does not even come in for second place—in fact, the readers of the article are led to believe that Texas is not even a honey-producing State at all!

The italics above are mine. At the time it seemed ridiculous to mention the matter, and the article was mislaid for some time, but when it came to light again, and I read it over, I began to wonder how it was possible that we little fellows, who have been doing some big things for a good many years, should be overlooked entirely, as is shown by the above paragraph.

A Texas Work-Shop and Honey-House

In the last issue I promised that I would show how my shop and honey-house looks, where I spend much of my time when I am not able, on account of bad weather or otherwise, to attend to the bees in the apiaries. I think a great deal of this honey-house, because it is the only one of its kind that I know of. Although the house is not built on as fine a style as I might have built, yet it serves the purpose admirably, and it is really the principle of the different working parts that make it up, of which I pride myself.

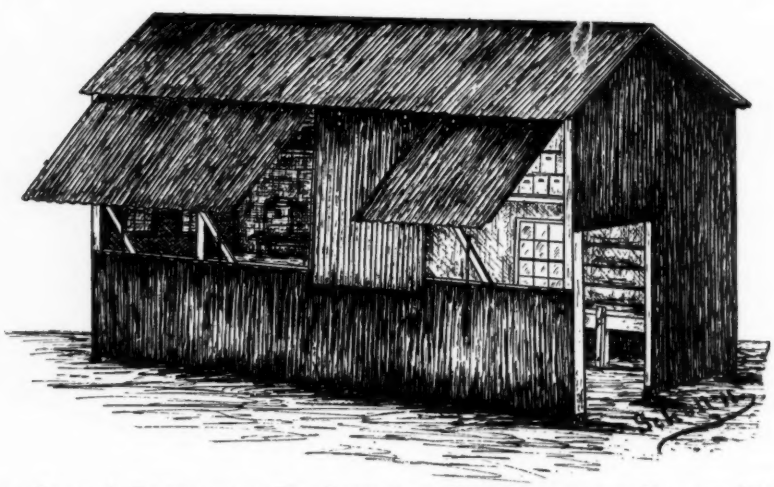

FIG. 1.—SCHOLL'S EVERLASTING FIRE-PROOF (AND YET COOL IN THE HOTTEST WEATHER) COMBINED HONEY-HOUSE AND WORK-SHOP.

The picture of the entire house in Fig. 1 shows that it is constructed entirely of galvanized corrugated iron-roofing on the top and sides. The frame-work of the house is built out of cheap lumber. This, together with the ease with which such a house is constructed, make it quite a deal cheaper than many of the houses that have been illustrated. This has been quite an item with me.

One of the first presumptions would be that a building entirely covered with metal of the kind used by me would make a very hot building in which to work during the summer time, and very cold in the winter. But this is not the case with my house, due to the peculiar construction of the south and southwest end and side of the building. The view is taken from the southwest, so it will be seen quite readily that the south breeze, of which we have an abundance almost at all times during the summer, passes right into and through the house, going in at the large openings provided for this purpose, and out of the windows at the other end.

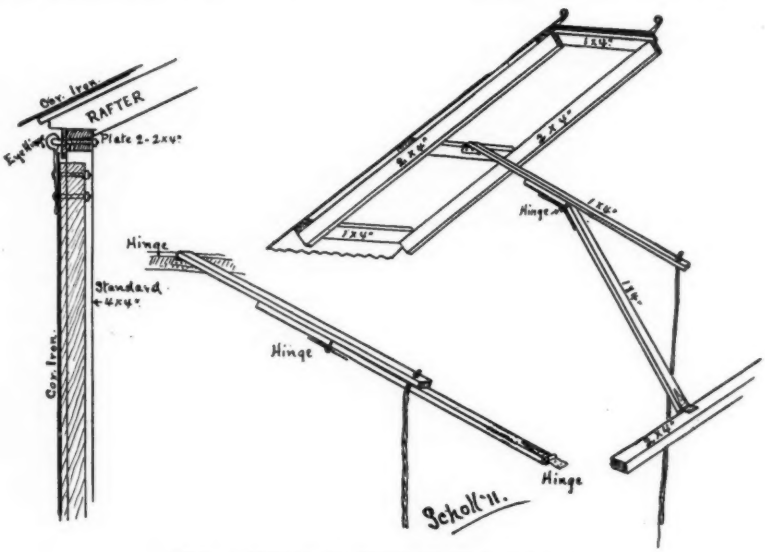

FIG. 2.—DETAIL OF SHUTTER-CONSTRUCTION.

This is obtained by the peculiar construction of the large shutters which are more than one-half the entire wall-surface on the southwest side of the house. To give the reader a better understanding of the working method applied on these, two more drawings, Figs. 2 and 3, are given. These show how the extending arms that hold the shutters out in the right position, can be made to fold up underneath them, much like the tongue of a bee folds underneath its head. The principle is the same exactly.

When it is desired to have these shutters open, a pull at the ropes forces the arms out and opens the shutters. If they are to be closed, with a light push under the folding arms, while the other hand holds the rope firmly, to prevent the shutter slamming down too rapidly, the side of the house can be closed. Since there are 4 of these shutters, any part of the side of the building can be opened as desired. For this reason it is a cool building during the summer time, and, being well protected, with the windows closed on the north side, it is also a warm building in the winter.

I also show you a cross-section through the entire length of the building. First, we enter the shop where I have a suitable work-bench and shelves for a complete set of all kinds of tools that are so necessary in the bee-keeper's work. From this shop I have ingress to the space underneath the other half of the building, designated as

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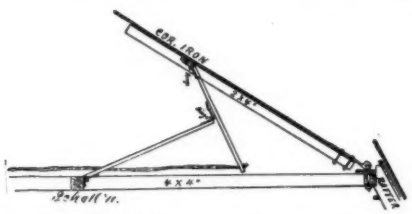
the vinegar and storage-room. This opens the entire width of the building into the work-shop. If we go up the steps shown in the work-shop, we go through a door in the screened wall of the extracting and honey packing room. From this we can go up into the honey-can storage-room above, and again from this latter into the out-of-the-way storage-room still further on.

I have considered the matter of getting as much under one roof as possible, and



3.—Shutter Mechanism Partly Closed.

that for two reasons: First, to save on the cost as much as possible; and, second, because I believe in having everything as handy as possible, and that is obtained by having all these things under one roof as I have arranged them in the construction of the house here shown.

Since I have been in many and many a sweat-box that was called an extracting-house or a work-shop, before I built this one, I decided then and there that I would never tolerate such a thing on my place or in my work. I know that more can be accomplished when the operators can be comfortable when doing their work than if they are required to kill themselves in some ill-suited, make-shift-of-a-shack so often used by many bee-keepers.

Then, the matter of having the work-shop and the honey-house combined under one and the same roof, was considered as against the one being separated from the other. But since it becomes necessary so often that certain work must be done that would cause a great deal of running from one to the other, I have decided upon the plan here shown. Although the two are under one and the same roof, they are not together, as it were, but separate. I do not like to have the two united in one room, nor the same room used for first one or the other, or both, as this is very unsatisfactory.

Since I have the honey-house part of the building elevated a little higher than the height of my honey-wagons (to save lifting the honey when it is brought in from the apiaries, or when hauled out to be shipped away), there is left some room underneath this, making a nice storage-room for whatever is used in the shop; and as access to this portion of the building from the shop is on the same level, and easy, it is very handy.

The same holds with the connection between the extracting and packing-room, and the can-storage room. The honey-cans can be gotten down from this place very easily whenever they are wanted, as the entire width of the building is left open at the place where these two rooms meet. For anything that we do not need so often the uppermost room is used.

The entire building is 14 feet wide and 24 feet long, by 18 feet high. These dimensions can be either increased or decreased as the demands of the bee-keepers' needs require. Such a building has served my purpose for several years, or up to 300 colonies. I could use a larger house now, since I have spread out with an added number of apiaries, but instead of doing this, I will build another house just like the one at another place, to take care of part of the yards there. I term this place my sub-headquarters and take care of a circle of yards from this point that are too remote for the house at home. In this way I save a great deal of extra hauling and driving, which, especially when long distances are taken into consideration, means a great deal.

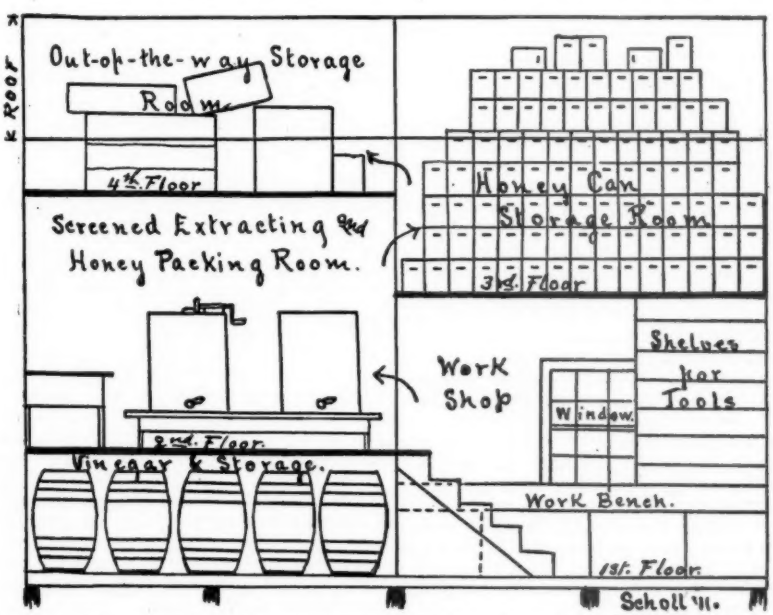


Fig. 4.—Cross-Section—Showing the Four Floors of Scholl's Honey-House.

Convention Proceedings

The Ohio State Convention

The second annual convention of the Ohio State Bee-Keepers' Association met in Cincinnati Feb. 16, 1911, and elected the following officers for the ensuing year:

President, D. H. Morris, of Springfield; vice-president, Frank Hammerle, of Hamilton; secretary, A. N. Noble, of Springfield; treasurer, Chas. H. Weber, of Cincinnati.

Executive Committee—G. G. Lingo, Wm. Schmees and C. A. Brooks, of Cincinnati; J. G. Creighton, of Harrison; and Fred W. Hammerle, of Hamilton.

Owing to the desire of the majority of the visiting bee-keepers, the meeting was limited to the first day. This necessitated the curtailing of the program, and omitting "Visits to Points of Interest," which had been set for the second day.

The members engaged in some very spirited discussions, owing to the fact that this convention was the first State meeting held since 1888, in Toledo, O.

Papers were read by the following: Mr. C. H. Weber, on "Shipping Comb Honey to Market;" Mr. Chalon Fowls, "How to Increase the Demand for Honey by Building Up Trade at the Groceries;" and Mr. E. R. Root, on "Modern Methods of Extracting Honey," and "American Foul Brood Differentiated from European Foul Brood," which were very interesting and instructive.

Mr. J. G. Creighton read a paper on "Foul Brood In and Around Cincinnati," giving an insight to the disease of 20 years ago, and up to the present.

At the evening session Prof. N. E. Shaw, Chief Foul Brood Inspector of Ohio, held his audience spell-bound by a chart prepared by himself, indicating the "Alarming Situation of Foul Brood in Ohio," which practically showed that one-third of the State is infected with the disease. However, he promised that if sufficient funds should be forthcoming by an appropriation from the State Legislature for this work, to be able to change the map considerably. Bee-keepers from the entire State should assist him by urging their State senators and representatives to vote for the necessary funds required for his valuable work the coming year.

Mr. E. R. Root's stereopticon lecture on "The Value of Bees in Fertilizing Fruit-Blossoms," was very instructive to both bee-keepers and horticulturists. He showed how these two industries are co-partners in fact. One could not exist without the other.

During the day session the co-operation of bee-keepers with farmers, to preserve sweet clover and promulgate its culture for the benefit of both, aroused great interest.

Red clover queens and how to get the most wax out of a given quantity of cappings were explained in detail.

Taken as a whole, the convention was a success. The next convention will be held in Springfield, Ohio, Thursday and Friday, Feb. 15 and 16, 1912.

Henry Reddert *Sec.*

American Bee Journal

CONTRIBUTED ARTICLES

Improvement in the Honey-Bee

BY E. S. MILES.

After deciding which our best colonies are, comes the question of how to rear our queens from them.

I do not profess to know much about queen-rearing, but 15 years' experience has convinced me that natural-swarming cells are the poorest of any. Not that a large part of them will not be good, prolific queens, but for some reason I do not understand, a good strain of bees will degenerate by that method, while improvement is also impossible by it.

There are several good methods of artificial queen-rearing, but I think there are a few principles we must observe in all to insure success.

First, there must be plenty of food and heat. The first can be supplied by feeding if there is nothing to be gathered, and the latter is generally insured by having very strong colonies for rearing the queens. If one can find a colony wanting to supersede its queen at the time we want cells, that is a good place, usually, to get good cells.

I prefer artificial cell-cups, as they make cells so easily handled. I also have a notion, though I can not prove it, that cells made from light wax give lighter-colored queens than from cells on black comb.

I would not recommend the ordinary run of bee-keepers to attempt to rear many queens except in hot weather, and while there is plenty of nectar and pollen in the flowers.

If I can not find a supersedure colony at the proper time I use the Doolittle method, except instead of a story over an excluder I use queenless and broodless bees. One can take some colony that does not promise much for honey, if there is such an one, and unless the weather is very hot, it should be strengthened with brood so as to be strong in young bees when the time arrives for cell-building.

When we have the cell-cups ready, and a cell or two to furnish royal jelly for the batch we propose to start, we go to this colony and take away all brood, having previously made it queenless a few days before, and here we can get our royal jelly if not otherwise provided.

We leave it at least 2 combs of honey and pollen, spread apart far enough for the queen-cell frame to go between, and fill out each side of the hive with empty comb or sheets of foundation. Then we graft our cells from our breeding stock, and place in the center of this prepared hive, and leave them until they are ready for the nuclei. If there is a good honey-flow these cell-building bees will fill up their combs, and may need some taken out and other empty ones put in.

When the cells are ready to hatch, we put them in nuclei of 1 to 3 frames, according to the weather and our stock of combs of brood. We think it better to put in not less than 2 frames of brood well covered with bees in each nucleus. We dent the comb directly at the top edge of the brood with our finger, and press the cell in so that the lower point of the cell is just at the upper cells of the brood, and place combs in the hive with the queen-cells in between the combs. This is to insure the bees clustering on it at all times. If there are doubts of the first night or two being warm, we shut the nucleus up tight, and leave it for 24 or 48 hours in the honey-house. Usually we close the entrance 24 hours or more wherever we set the nucleus hive, when the young queen will be out and the bees will stay.

If we have a colony we wish to requeen, we set a nucleus behind such colony with the entrance at right angles to it. After the honey crop is off, kill the queen to be replaced, and two days afterward change places with the nucleus having the young queen of good stock. The next day go to the old hive, which now sits behind the nucleus, and after smoking sharply at the entrance take out enough frames to fill out the nucleus, and fill out the nucleus with them. Just slip the dummy over to the side, and set the frames of brood and bees quietly in, and close the hive; it should not take over a minute or two, and I have done it when robber-bees were extra bad, and never lost a queen that way. I then have a better colony than ever for the fall honey-flow, if there is one.

If a little increase is wanted, by having a few extra queens, the combs that are left can be given to them, or they can be tiered up over any suitable colony. If we can get our young queens reared and mated before the swarming season is over, in case one wishes to run any undesirable colonies for section honey, and they swarm, just place the nucleus containing the young queen on the stand that cast the swarm, after removing the old hive to a new stand, and hive the swarm in with the nucleus. With this operation our queens must be clipped so as to catch the undesirable queen and dispose of her.

The nucleus can be filled out with starters in brood-frames, and given the supers from the old hive, or new supers, according to circumstances. In practicing this latter plan it is advisable to have the young queen laying a week or more, and have her clipped, as occasionally one may swarm out or attempt to abscond. They should, of course, as all swarms, be well shaded, and given plenty of room and ventilation for the first few days.

Now, our success in improving our bees lies partly in being able to rear good queens, but unless we pick the right stock to breed from our success will be limited. What I wish to call attention to is this: Suppose we have in our apiary 3 or 4 colonies that appear to be about equal, and all seem fit for breeders. Now we might rear all our queens from one of these, and 50 percent of them may not come up to the qualities of the parent colony. We might take another of these colonies, and 75 percent or more might have the qualities of the parent colony. In other words, some one of these apparently equal colonies may be a great deal more prepotent in the traits we desire to perpetuate. I know of no way to find this out except to select the most promising young queens and test them by breeding one batch of cells from them the first year, or as soon as we can see that they may be fit for breeders.

We must judge a queen largely by what her queen progeny will be, in breeding for improvement. If we find one whose progeny is holding the traits well that we want, we can then breed largely from her.

I find it takes about all of the life of a queen to test her rightly for breeding. We have to keep her over one winter to test her wintering qualities; and one season to test her for building up in the spring and honey-gathering, non-swarming, etc.; then by the time we take our first batch of cells, she is 2 years old. Then we need at least one season to judge her first progeny, which brings us to her third year. So we really have only the fourth or last year to use her for a breeder. I have had none live over the fourth year, and would not want to breed from anything shorter-lived. It seems reasonable to think that long-lived queens would produce long-lived workers.

In writing the above, no consideration has been given the drone. Let each one do what he can to hold back undesirable drones, and let all good colonies rear a reasonable number of drones. If we can not directly control the drones, let us do what we can.

Dunlap, Iowa.

Various Apiarian Opinions

BY O. B. GRIFFIN.

It is interesting to see the differences in opinions held by different members of a profession regarding ways of doing things. I hardly think these differences are any greater among bee-keepers, but being a bee-keeper I think I notice them more. I would not be much surprised if it is some time proven that getting used to a certain race of bees, a particular kind of hive or appliance, or some method of procedure, largely influenced us to believe earnestly that particular one the best, or only one, according to our differing temperaments. Then, again, I come back to my personal view, that locality does make a difference.

It seems to be my lot to be on the "off side" much of the time. Not because I like argument, or am like the man "drawn on the jury," who found on the panel "eleven of the darnedest contrary men he ever met." It is a little easier to drift than to swim, but one does not always get quickest to the shore he seeks in this way.

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Black Bees and Wide Frames.

I am not wholly alone in preferring the black bee to the Italian—certainly not in this country; and it seems there are some who prefer the wide frames for holding sections, in comb honey production, as well as myself.

Like Miss Candler (see American Bee Journal for November, 1910, page 351), I very much prefer the wide frame for holding sections, over any other way I ever tried, and one of the chief reasons is that the sections are kept so much cleaner, and are freed from propolis, etc., so much quicker and easier than those taken from the T-super or section-holder.

Now I will make this plain, so that I will be perfectly fair in this controversy. My supers are not the regulation T supers, but have wooden slats for sections to rest on instead of tin. This may make all the difference, though I can not see why it should. This can not be my fancy alone, for I often have some of the neighbors help me in cleaning up the sections for market, and without exception they are very glad when we get to work on sections taken from wide frames.

I have tried Dr. Miller's way of cleaning in a body, but I am not a success at it. I find no trouble to remove sections from wide frames, and can do it much quicker than I can take the same number from a T-super, unless I take more chances in breaking honey in T-supers.

Another reason for preferring wide frames is that separators are nailed to the frames, and never have to be handled separately from the frames. Then, again, I find it much handier to set aside, in another super, a frame of unfinished sections, than to handle four sections separately. In using for bait-sections, one frame is placed in the center of the super without being disturbed.

My frames are ⅜ inch thick; top and bottom bars are 1⅝ inches wide, and end-bars 1⅞. When honey is coming in freely, if not left on the hive until late in the season, the sections will need but little cleaning. Miss Candler need not hesitate to try frames ⅜ inch thick, though I think it would make little difference.

This is the first time I have taken the opportunity to disagree with Miss Wilson, and I trust she won't accuse me of contrariness.

Origin of Honey-Dew.

There is one other thing I feel very sure of—all honey-dew is not the exudation of insects. Twice in my bee-keeping years (19, all told) I have had a flow of honey-dew. Both seasons were exceptionally dry, and the flow of honey-dew came at the very close of the season, late in August. The honey was very heavy, thick, dark-colored, and was much liked by some, while others cared little for it. Some preferred it to any other honey they had ever eaten. The last of the flow was thinner, darker, and much inferior in quality. I feel safe in saying that the source of this honey was the beech-trees. The forest growth here is mostly a mixed growth of beech, birch and maple in the hard woods. The leaves of the beeches were covered with it, much as if covered with a light shower. Bushes and the branches of other trees that extended under the beeches, and even rocks and logs, were covered in the same way; while other trees not 20 feet away from the beeches showed no signs of it. It simply could not have been insects in this case.

The bees worked early and late, and but little in the middle of the day. Some 40 colonies stored nearly a half ton in the sections, besides filling up the empty brood-frames. My winter losses following that season were about 90 percent. Bees were wintered in the cellar, and were without a flight for 5 months.

One interesting sight observed by me during this flow was a shower of honey-dew. This I witnessed about 5:30 o'clock in the morning. The sun had just risen, so that standing in the woods, looking toward the sun, the branches of the trees shading my eyes, I noticed a fine shower falling out of a clear sky, which I at first thought to be dew, but which, on investigating, I found to be honey-dew. Leaves, stones and logs were wet with the substance, and when I repeatedly applied my tongue to the surface of these, I was as thoroughly convinced of the sweetness as if I had tasted honey.

If I ever pass through another flow of honey-dew I shall make some very careful notes for the benefit of the fraternity.

Aroostook Co., Maine.

Bee-Keeping and Good Health

BY F. B. CAVANAGH.

A good deal has been said lately regarding the healthfulness of bee-keeping and stings; perhaps more particularly the latter. In fact, the casual reader might be inclined to believe that the more bees kept the greater would be the degree of health attained, should he combine the writings on health with the popular advice to keep more bees. However faithful and true are the writings on this snbject, it is true that there are certain elements entering into extensive bee-keeping which are not conducive to health, and bee-stings and hard work are not among the least of these.

Do you, my amateur bee-keeping friend, ever stop to consider what the difference might be between keeping a few colonies for diversion and pastime, and of being crowded with the overwhelming rush of work which the specialist has at certain seasons to endure? With you it is fresh air and an agreeable change; with the specialist it becomes a daily grind and routine. In all this routine is the fascination of seeing success in sight, which leads men on to exertions which are often injurious to health.

The rush season of the honey-flow offers the greatest menace in this manner to the extensive bee-keeper. With a multitude of details to plan, and hired help to arrange for, he arises early, rides perhaps 5 or 10 miles to an apiary, and after doing a big day's work reaches home late in the evening. The successive days are repetitions of the first, for with half a dozen apiaries to visit he must finish at least one yard a day, so that it will be safe to leave for a week, at least. There is honey to be extracted, and swarming to be controlled, concurrent with all the complications which are prone to occur should there be an unusually heavy flow in all yards at once. Unde the excitement of the honey-flow the bee-keeper essays to keep up; he does keep up, in fact, although working under a terrible strain and fearful odds, the result of which he is bound to realize years after the honey-flow has been forgotten.

A few years ago much was said about "lightning operators," and I confess that the idea took strong effect on me at the time, but what was the result of these fantastic maneuvers? Well, in the majority of cases we were no doubt left to surmise the effect on the operator after continuing this lightning work for a time. Neither are we told how much honey these extra-swift crews extracted the day following the one on which they made their record. However, we have a few examples of what such exertion can do for a man, as well as some others, who will admit as they read this that they have been injured in the same manner by trying to do two men's work. Harry Howe and some of the Coggshalls of New York could, I believe, tell what this sort of thing continued can do for a man. Yes, and I also have seen a little too much of it, although I am beginning to gain a little sense in the matter, at least.

Continued over-exertion is followed by weakened nerves, and incapacity to continue the pace which ambition or pride in excelling has set. A prominent bee-keeper once said to me that the shipping of bees shortened a bee-keeper's life. After going through the ordeal several times I agree with him perfectly, and it is certain that many bee-keepers are accomplishing the same result by trying to do all of their work alone, when they have more bees than one man is able to care for. Nature has given us a reserve force which may be drawn on rapidly or slowly, but which should never be depleted. Exhaustion is the danger signal which reads, "Stop, and take rest and refreshment." Will we heed it, or will we, under the lash of enthusiasm, whip our poor, tired bodies on to their final destruction?

There is a better way to succeed than to break one's health down through overwork. In fact, such procedure is itself the ruination of success. That way is to take forethought for the future, and to plan properly during dull days the work of the inevitably busy future. How best to reach our apiaries, what machinery to install, and what help we shall employ, are questions which should be carefully planned ahead of the busy season, in order that we may be able to accomplish what we formerly thought was a big 10 hours' work in the short space of 6 hours.

Arrangement is only second in importance to equipment in an apiary, and the *order* of manipulation is vital in attaining speed. The apiarist should know in advance of the rush season just where each piece of machinery is to stand. The arrangement, as a rule, will be, capping tank, extractor and strainer; situated in order at the left

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of the door on entering. A system should be worked out which is as effective and as economical of mismoves as is that employed at the slaughtering houses in Chicago. By so doing we shall accomplish the work more quickly, leaving the operators time for rest and to plan better the following day's work. With shorter hours, the work may, in fact, be better accomplished, the bee-keeper is more fit to manage, and the hired helpers feel encouraged.

In our apiaries, as in many others, young men are employed who have in view a bee-keeping future, and who are consequently students of bee-culture as well as helpers. It therefore becomes us to be able teachers, giving these young men an inspiration to be capable in their calling; to make the work interesting by the use of new appliances and the application of new systems. Neither should this be considered in the light of a philanthropical move on our part, for the adoption of these features are in themselves our most profitable moves.

This is an age of general science and invention, in which bee-keeping is at least a close second. The reversible power-extractor, steam capping-knife, melters, and not least the modern hive and equipment have made it possible to handle thousands of colonies almost as easily as we could otherwise manage hundreds. Science has made the pursuit fascinating, so much so in fact that unless we exercise good judgment we are apt to be lured on to over-exertion. This should be strictly guarded against, however, and, with the proper use of modern machinery, it becomes unnecessary.

Instances are frequent where bee-sting poison has been beneficial in curing certain forms of rheumatism. So much has been said, in fact, that the reader is led to overlook the fact that this poison may do serious damage to the system. Doctors with whom I have talked say that this poison is hard on the tissues, affecting the pericardium or membranous lining of the heart. Several cases have been reported in which the bee-keeper has suffered from an overdose of this poison, be it formic acid or otherwise. The amateur bee-keeper is in little danger of receiving into his system a harmful amount of this poison, although at times he is liable to *think* the results very bad. The specialist, if not careful, is, in time, liable to get an amount which is injurious to health. Once the system is inoculated with this poison, it is said that the effects are more or less of a permanent nature, so that it becomes us to be very careful in this matter. A good veil costs but little, and a careful system of handling bees, so as to avoid stings, costs nothing. Often, no doubt, the operator is affected with this poison, and the discomfort is attributed to other causes. At any rate, there is nothing to be lost, while perhaps much may be gained, by being careful in this line.

Finally, we should temper the doctrine of keeping more bees with sound judgment in the employment of our energies, accomplishing an increased amount of work by the means of better facilities and a more expedient system. Cut in two the time spent on the road, by the use of the automobile; the labor of extracting with the power-extractor, and kindred labor-saving devices. Work hard and fast at the apiary, for languor at work will never bring out the best that is in a man; but shorten the hours of labor to the increase of the rest period. If you must draw rapidly on reserve forces, give Nature time to recover before beginning the new day's work. Install the best of modern labor-saving machinery, and keep bees enough to pay for the added expense. Be a big enough man to handle it all, or else do not attempt so much, for it is better to handle a few bees well, and to succeed at the business, than to attempt to handle many, and fail.

Hebron, Ind.

Novel Bee-Hives in Scotland

BY D. M. MACDONALD.

Bee-keepers are always on the lookout for some new thing in the way of hives. When to mere novelty is added a claim that the invention will help to eliminate swarming, a new interest is taken in studying it. No one will deny that the hive shown on first page has the grace of novelty, and a strong claim is put in by its inventor that by its use he can control swarming. The finished product is the fruit of long study and experiment, and it has come to its present state of perfection by gradual evolution. Several Scotch bee-keepers have near the entrance of their hives a sloping approach by means of which the bees find entrance to the brood-nest, not by the orthodox method of an opening in the front wall, or a sunken entrance in the floor-board, but by an interior slanting floor below the true floor-board. Thus the real front door may lie forward 2 or 3 inches beyond the hive front.

Some of them believe sincerely that several advantages are derived from such an entrance. In windy weather, when the bees approach heavily laden, they secure a safe haven of rest in this vestibule, instead of being buffeted about on an exposed flight-board. As the sun does not strike in such a way as to allow its rays to penetrate into the hive interior, the bees are not tempted out to suffer, it may be, an untimely death and burial on some bright day when the ground is coated with a depth of soft, powdery, newly-fallen snow. Such entrances may be easily made mice-proof in winter, and other vermin may be excluded easily.

Acting on this principle, the inventor of this hive gradually extended this slanting entrance until it finally has been placed about two-thirds of the way back from the hive-front. A glance at the illustration will show that the entrance has become enlarged until it has been converted into a wide funnel, contracting pretty sharply until at the true entrance it is only about ⅜ inch by about the full width of the hive. But—and this is a most important feature in swarm prevention—the owner has the means, by the use of a slide, of dividing his bees in such a way that the principal force is directed to whichever part of the hive he desires they shall work in. Thus, if one division becomes too strong, he can divert a considerable contingent to the part of the interior he desires to strengthen; and that, too, without opening the hive or disturbing the brood-nest with any untimely manipulation of bees or frames.

Back of the regular breeding area he has a space for forming a nucleus, the bees from which are trained to issue by the side-entrance seen at the rear of the left side of the hive. The queen, too, finds there an exit and entrance when issuing to meet the drone, and when returning after being mated. By very simple means this division can readily be strengthened either by including another frame from the front section, or by diverting a proportion of the bees returning from the fields. The same chamber is generally employed during the winter months to house a small body of bees with a spare queen, often a valuable asset in early spring to requeen any colony which has lost the mother-bee. If not so required, she can serve in another and almost as useful a purpose. Two queens breeding in the same hive, divided as far as their range of ovipositing is concerned, by excluder zinc, quickly work up a powerful army of workers ready to take advantage of any early flow, such as fruit-bloom. The two divisions of this hive can be so worked up to full strength.

Perhaps, however, the chief claim for the existence of this novel hive is the fact that its owner says he can control swarming. It will be noticed that a dark object runs up the front of each hive. This is a tube of queen-excluder zinc leading up to the space near the hive-roof. This can be discarded at other times of the year, but when swarming is anticipated it is fitted on. The queen, although allowed full scope for ovipositing, is confined to a certain number of frames near the true front. When a swarm issues she can not join them, but has to walk up the interior of this funnel until she finds entrance to a contracted swarm-chamber. Here it is anticipated a certain number of bees join her and remain to protect her until the bee-keeper has time to attend to her and them. Most of the bees will have issued by the true entrance from which they make their regular exit to the fields, and as this is always freely open to them there is no congestion at any time.

The frames are all of uniform size, both in the brood-chamber and the super area. They are only 6 inches deep, and are all closed-end, resting on the floor with a bee-space below the bottom-bar. Further tiers are raised the same height, a bare ⅜ inch above the lower tier. As a rule, two sections at least are used for breeding, and the same number on which to winter. It is claimed that in early spring, if started with one chamber, and a second and then a third is gradually added, very strong forces result before the chief flow starts. Then in the fall the brood area can be almost insensibly lessened, and the full power concentrated on the contracted area. Thus at such a flow as the heather, as autumn nights chill, they can be kept employed in profitable labors, filling and sealing, when the denizens of larger hives would desert

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the surplus chambers for the warmer precincts of the brood-nest. This is rather an important feature in any late fall flow.

As showing how the germ idea of the hive has gradually been developed, it may be mentioned that Mr. Reid, the inventor, beginning with single hives, adopted a twin hive as seen in the illustration, but now he has added a third division so that the complete article is made up of triplets. All manipulations are carried out by means of a door at the back, and the roof can be raised at an angle, away from the operator, so that he is working under cover, and always at such a height as that he is saved any bending of the back or stooping to carry on his manipulations. He calls them "Bee-houses," and, as in the larger form, they may contain some half dozen separate colonies of bees, the name is more appropriate than "hives."

The illustration shows a group of the hives, including twins and triplets, as they were turned out from the workshop ready for sale at Mr. Reid's place. As will be noted, he has taken out a patent, and gets them manufactured to his order. He, himself, is an extensive farmer, and carries on bee-keeping as a side-issue, but he finds it pays him well, and, needless to say, he has unbounded confidence in his own hive.

Banff, Scotland.

Shall We Clip the Queen's Wings?

BY G. M. DOOLITTLE.

"I have never clipped the wings of my queens, and have been wondering whether it would pay to do so or not, as I see that some of those who are considered good bee-keepers do not clip. I wish you would give us your views in this matter in the columns of the American Bee Journal."—A CORRESPONDENT.

While I am aware that there are some of our practical honey-producers who do not advocate the clipping of queens, yet I am of the opinion that the one who does clip is on the side looking toward the greatest success. I have always contended that, by having the wings of all queens clipped, we have the bees under control to a much greater extent than otherwise; can handle them as we wish; separate them with pleasure where two or more swarms come out and cluster together in case swarming is allowed; and hive all swarms coming singly on the returning plan. This returning plan is one of the simplest ways of hiving swarms of anything I know. All you have to do when a swarm issues is to step to the entrance of the hive, having a little round wire-cloth cage with you, and as soon as the clipped queen comes out with the bees you can see her running around in front of the hive, climbing any point a little higher than the surrounding ground, and trying to fly from it, which attracts the eye, so the queen is seen more readily than any of the other bees. As soon as seen, put the open end of the cage down before her, into which she will immediately run if the cage is held so she can climb up the inside of it, the same as she did to the highest point in front of the hive. As soon as she is in, the mouth of the cage is stopped with a cork or piece of a corn-cob of the right size, and laid in front of the hive.

I have seen some apiarists pick up a queen and push her into the cage, one of which confessed to me that he had killed one or two that way. Don't try to do this. If you will watch the queen a moment before you let her run into the cage, you will see that she is all the time trying to get on something to climb up, apparently hoping thereby to be better able to take wing, and on your holding the cage in front of her she will use the cage for the same purpose, and you are to put the stopper in while she is climbing to the top.

Don't make the mistake of turning the open end of the cage up to put in the stopper, lest, perchance, she gets there at the same time and you catch her between the stopper and the cage to her injury.

Having the queen in the cage in front of the bottom-board of the hive she came out of, the old hive is picked up and carried to a new bottom-board, which had been previously placed where you wish a colony to stand, and a new hive which had been previously fixed in readiness for the swarm, set on this old bottom-board. In a few minutes the bees will miss their queen, the swarm often not clustering at all, and as is always the case where any queen can not accompany the swarm, come back running into the hive with fanning wings, telling as plainly as can be that they are rejoicing over finding their queen, which before this had been put at the entrance to the hive.

When about three-fourths of the bees have gone in, the stopper is taken out of the cage, when the queen will immediately run in with them, the same as she would have done had the swarm clustered with an unclipped queen in some high and out-of-the-way place for the bee-keeper to climb, cut off some valuable limb of a tree and bring the clustered swarm to the hive he wished the swarm to enter.

Then I have another reason for clipping queens now that my eyes are geting dim, which I did not consider at all 35 to 40 years ago. In many of the manipulations it is quite necessary that the queen be found, so of late years in clipping I cut the most of all the wings off, so that she is always after that very readily found. In making nuclei, changing frames of brood and bees, etc., if you find the queen you can always know that she is just where you wish her, and not in some place she ought not to be, thus often saving the life of a valuable queen. By having her wings cut short, you can see the golden abdomen of an Italian queen at once upon glancing over the frames as you lift them.

However, none of the above is the main reason for clipping. The idea of clipping originated through the losing of swarms by having them abscond or fly off to the woods before the bee-keeper had time to hive them, or from their leaving the hive within a few hours to two days after they had been considered safely housed in their new home. Having the queen clipped, even should the bees start off for the woods, or some old hive or open space in some building or rocky cave, we can always rest assured that they will come back again as soon as they become aware that "mother" is not with them, and run into the hive fixed for them.

Very few persons have kept bees for any length of time without an experience of swarms leaving for "parts unknown," where the queens of the apiary have been allowed the use of their wings. It was this loss of swarms by their leaving me in my early experience with bees that made me resolve that no more should run away after I had them safely in a hive, and though 40 years have passed since I made that resolve, not a single swarm has "left for parts unknown."

Then there is another item that I will speak of. While I believe that winter is the time in which everything should be gotten in readiness for the coming season's activities, yet it will sometimes happen, by some unexpected calling away in swarming time, or some swarm coming out when not expected, that we must take a little time before we can attend to their hiving. In such an emergency, if the queen is clipped, a swarm can be held out on a limb, swarm-catcher, or even in an open box, while we are making a dozen hives, or preparing some special place for them. Where it seems necessary so to hold a swarm, as soon as the queen is in the cage attach a short piece of wire to the cage, and as soon as the bees begin to cluster bend this piece of wire over the limb, or by means of the same secure the cage among the bees where wanted, so that the caged queen will be where the cluster will naturally hang, when the rest of the swarm will alight and cluster the same as they would had she had her wings to go with them at her "sweet will."

We can now go about anything we wish, resting assured that we will find the bees there when we are ready to care for them, no matter if it is not till the next day. Several times have I had the swarm uncluster from a queen so fixed and fly away and be gone entirely from sight or hearing for some time, only to return and cluster about their queen again, and, to the few bees, I always allow to run in the cage with her to care for her where I expect to leave her caged for any length of time.

Borodino, N. Y.

Thickness of Comb Foundation

Read before French Societe Centrale d' Apiculture,

BY FOLOPPE FRERES.

Comb foundation plays so important a role in the modern apiary that everything which concerns its use by the bees seems to present an interest, not only for the observer, but also, and we might say especially, for the practitioner.

It is under this double interest that we make bold to appear in this meeting and exhibit to you the results of an experiment made for a practical purpose.

Our object was the following: Determine if possible what should be the preferable thickness to give to a sheet of foundation, in order to get from it all the advantages which it is possible to secure. (The sheets upon which we experimented were made with a press.)

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Before describing the experimental method adopted, it seems to us indispensable to determine and make known some data, for we are able to operate only by successive gropings, and in a manner somewhat empirical, on the whole.

If we furnish to a colony, during the good season, sheets of foundation of different thicknesses, three cases may introduce themselves:

1. Sheets too thin, which the bees must complete. This addition of wax furnished by the insect will translate itself, for the apiarist, into a loss which will be proportionate to the difference existing between the honey consumption of the bee and her producion of wax. Moreover, in certain circumstances, the cells may be brought to their normal depth, but the construction will then be so fragile that under the double influence of heat and weight, it will be liable to break down. (As it is difficult to obtain thin sheets with the foundation press, this will happen only in the case of ill-built sheets, one side of which would be too thick, while the other edge may lack in material.)

2. Too thick sheets furnishing an excess of beeswax. This surplus will doubtless be utilized, but often at the expense of regularity of the combs; and as it is *in no way indispensable*, it will occasion, for a large apiary, a very positive loss, in view of the high price of the beeswax furnished.

3. Lastly, a sheet of such thickness as will hold a medium between the two preceding examples. Supplying enough raw material that the worker may succeed to give the cell a sufficient stretch without having to make any addition, yet leaving a sufficient thickness to secure rigidity.

We therefore consider the sheet which will fulfill these conditions as the type of rational comb foundation.

In regard to the thickness of the built comb we will consider it as 25 to 26 millimeters (inch .994 to 1.033) cappings not included, admitting that the wax in the cappings and their joint with the cell-wall should always be furnished by the wax-worker. The above being established we will now approach the experimental part.

We could attain our aim by different methods. For instance, by weighing each sheet given to be built, and weighing it again after being finished, deducting anything which might falsify the weight, frame, wire, propolis, etc. Although this method appears sufficiently exact, we did not resort to it, preferring a process which would permit us to ascertain, *de visu*, where the addition of wax by the wax-builders began in a sheet too thin, and would inform us otherwise upon the management followed by the bee in the case where she can not have an excess of wax at her disposal.

To reach this result we have caused our bees to work upon colored sheets, which would not exclude a positive control by weight also, and as you will see farther this trial has succeeded.

The search for a coloring pigment stopped us for some time, for we needed an innocuous substance capable of dyeing pure beeswax without communicating to it either taste or odor. In fact, although beeswax may be easily dyed while mixed with certain other substances, we must acknowledge that we found some difficulty in coloring it in an absolutely natural condition. After a few unsuccessful efforts, we finally obtained wax of a free shade without marblings, the color of which contrasted neatly with that of an ordinary comb, while remaining entirely harmless to the bees.

Sheets were made of different thicknesses by the use of a Rietsche press, measuring 764 cells to the square decimeter. [This is about 10 percent larger than natural worker size.—Translator.] Carefully measured and weighed, these sheets gave 85 to 115 square decim. to the kilog. [4.15 to 5.63 sq. feet to the lb.] We even reached nearly 120 decim. [5.87 sq. ft.], but the obtaining of such thin sheets can not be reached in ordinary work, as the press must be perfectly regulated, otherwise the middle rib is produced only partly. Even then a certain sleight-of-hand and a small apparatus are needed. Each of these sheets was introduced into a colony between two regular combs entirely built of known weight, and whose distance apart had been verified.

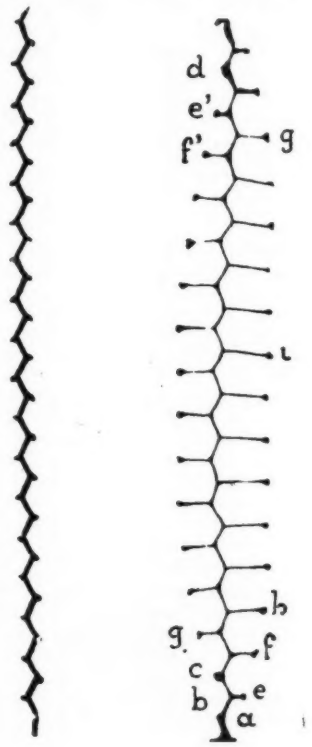

FIG. 1.—Cross-section of a sheet of foundation—natural size.
FIG. 2.—Cross-section of a sheet of foundation in process of construction—natural size.

Although natural beeswax is an eminently plastic substance, we all know that the press causes it partly to lose this quality. In dyed beeswax, one sees this frailty increase, the staining molecules do not make a body with the mass, render it pulverulent, thus diminishing its cohesion to an appreciable extent.

Our bees thus had to meet some difficulty in using this substance, however the combs were built, filled with honey and sealed over.

The comb which we have the opportunity to present to you was built upon a sheet measuring 135x400 mm. [83.7 sq. in.], weighing 50 grammes without the fastening wax. According to admitted units this corresponds to a surface of 108 sq. decim. [5.27 sq. ft. to the lb.]

On the construction of this comb there is but little to say, the bees having followed their habitual mode of edification in a complete sheet of foundation: beginning in the center and extending their work gradually towards the outer edge. The comb which we display did not escape this rule, and the harvest having come, the harvest bees took possession of the cells, whether finished or not, to deposit their nectar.

If we consider this comb as a whole, we see very clearly the spots where, of normal thickness, it was reached by the uncapping knife. On all these cuts no trace of new wax is perceptible. The cappings of this part were, however, made with white wax, but had only a filmy thickness. Around this principal uncapped portion, one sees the cells being partially closed with deposits of almost pure new wax, tending to prove what we stated above, that the work of lengthening had been interrupted by the abundant gathering of nectar.

Lastly, towards the top-bar a goodly number of the accommodation cells and the row immediately below these are built of slightly dyed beeswax. One would be tempted to believe, at first sight, that they were short of raw material in this part of their construction. It is, however, not so; on the contrary, for it is almost certain that they took advantage of the fastening wax, white wax much in excess of need [we had used 8½ grammes of this], and whose solidity and malleability must have been positively superior to those of the prepared sheet.

Another comb, built upon a sheet of 105 decim. to the kilog. [5.13 sheets to the lb.], was placed in a very active colony. This comb had all its cells drawn to full thickness before the beginning of the crop; after uncapping, it was impossible to find a trace of white wax under the knife-cut. The fastening had been done with green wax. Unluckily this comb was broken down in transportation.

In the thinnest sheets the thickness of the wax was still sufficient to show only a discoloration of the upper edge of the cell. [Fig. 1]. We had but to ascertain their strength by submitting them to a practical test. Two of these containing among the cells of honey a few cells of pollen were run through a honey-extractor. The machine hardly reached its speed [14 to 15 meters per second], when some tearing was produced. For a comparison, we will say that identical combs containing an equal quantity of pollen, but built upon laminated comb foundation of 130 decim. to the kilog. [6.36 sq. ft. per lb.] are rarely damaged at this speed, and that the same holds good for foundation made on the press up to 110 decim. [5.37 sq. ft. to lb.]

The thickest sheets presented important peculiarities. The thickest sheet was sealed in light green. Its cappings

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appeared made up of a mixture of natural wax and dyed wax in equal parts. In addition, the two contiguous combs —one on each side of the dyed comb— and built of natural wax, were also sealed in light green wax of the same shade [Fig. 2]. It results from this observation that the bees had enough surplus material in a foundation of this thickness to seal the comb entirely, but that an addition of new wax seemed to have been indispensable.

The adding of new wax, leaving an excess of green material, the latter was transported, as we have seen, to the opposite combs. These combs whose thickness of base corresponded to 108 decim. [5.27 ft.] were thus sealed with stained wax, which confirms our first remark, that cappings can not be secured from a sheet of this thickness.

If we summarize these different observations, we reach the following statements: Strictly speaking, the thin sheets might be adopted, the addition of wax by the insect being slight, upon the whole, but we must take account of the method of sheeting which takes away from the wax a part of its homogeneity; in addition, being very much weakened by the work of the bee, it acquires a frailty which renders the use of these sheets very hazardous.

In the thick sheets we have found a surplus plainly indicated and rather detrimental to the interests of the apiarist.

These examples place us in the condition of the first two cases considered at the outset, *shortage* and *surplus*. Neither the one nor the other can please us. We are therefore brought by deduction to consider again the comb mentioned formerly. We stated that all the sealed cells had been capped over with perfectly white wax, and that after the passage of the knife the cells showed no longer a trace of these de-

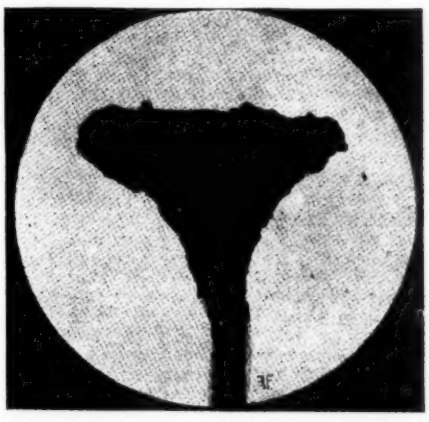

FIG. 3.—The lump at the outer edge of the cell, first stage—longitudinal section, enlarged 35 diameters.

posits. [Fig. 3.] Consequently the foundation upon which this comb was built is the nearest to the type we seek by experiment. Turning this time to the method of weighing discarded by us, we will in a way dissect this comb, bringing to your knowledge the weight of the different parts which composed it when it had just been baited. Taking the total of these we will compare it with the present weight to establish a possible synthesis.

The naked wire frame weighed	120	gram.
The foundation	50	"
The fastening wax	8.5	"
Total.....	178.5	gram.

The present weight hardly reaches 180 gr. We therefore reach an approximation very close to exactness since the difference is less than 1 percent.

In the above conditions it appears that this sheet of 108 decim. [5.27 sq. ft. to the lb.] may serve to determine the point where the equilibrium is established between the amount furnished by the apiarist and that supplied by the bees in the most economical sense for the production of extracted honey.

To positively state this point after this trial would be attributing to the latter an importance which it does not possess; it was attempted with the aim of furnishing information; we will not make the mistake of trying to draw from it a conclusion. However, this experiment has provided us with some teachings, and we should at least give our opinion, which may be summed up as follows:

In a practical view-point we think that the sheets measuring 85 to 90 decim. [4.15 to 4.40 sq. ft. to the lb.] can not be advantageous, while those comprised between 100 and 110 decim. [4.37 to 5.37 sq. ft. to the lb.], according to the size of the frame and the use of which they are to be put, appear to furnish not only the best yield, but also sufficient guarantee of solidity.—Translated by C. P. DADANT, from L'Apiculteur, of Paris, February, 1911.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to DR. C. C. MILLER, MARENGO, ILL. He does NOT answer bee-keeping questions by mail.

Italian Queen Mated with Black Drone—Material for Honey Extractors and Tanks—Raising Hive From Bottom-Board to Prevent Swarming

1. If an Italian queen mates with a black drone all of her progeny will show some yellow the first year; the second year part of the drones will be yellow and part black; but the third year not a single drone will show the least trace of yellow, but all will be back.

2. How I wish you bee-doctors would use influence to get honey-extractors and honey-tanks made of charcoal or some anti-rust grade of tin. Galvanized iron will spoil the taste of honey in a single night. We have to remove our honey immediately from the extractors after extracting or it will become tainted and strong in a very short time.

3. I am sorry the American Bee Journal had to be changed to a monthly.

4. Perhaps you will remember that I was the first to advocate raising the brood-chamber from the bottom-board to retard swarming. INDIANA.

ANSWERS.—This is something new, and I am wondering if it is not very exceptional.

2. It lies rather with the users of such containers to get what they want. If you order a certain material to be used, you will no doubt get it. There has been no little discussion as to what is the best material for anything in the line of a honey-tank.

3. On some accounts it is better to have a bee-paper oftener than once a month, but there are also advantages in the monthly. By far the greater number of bee-papers in the world are monthlies.

4. Abundance of fresh air at the bottom of the hive is a very important matter, and in many a case may be the deciding factor to prevent swarming.

Moving and Transferring Bees

I have 2 colonies of Italian bees in 1½-story Danzenbaker hives. I have 10 colonies in the old box-hives. I want to move them about 50 yards from where they are, and I want to transfer them to frame hives. These bees are the little blacks. When can I move the bees, and when transfer them into the new hives? How can I do it? Our bees begin storing about April 15, and continue until June 1. They are taking in some honey and bee-bread now when we have a warm day. The maple trees and alder bushes are blooming now (March 1). SUBSCRIBER.

ANSWER.—The best time to move bees so short a distance as 50 yards is before they fly enough in spring to mark their location. At that time, or any time through the winter when they seldom are flying, they may be moved without any special precaution. It is probably too late for that now, as they are daily flying, and if moved without any precaution many bees will return to the old location and be lost. So you will proceed as follows: In the evening after they have stopped flying, or else early in the morning before they begin to fly, fasten the bees in the hive. Then in the morning move them to the new place, and all the better if they are handled quite roughly. Clear off the old ground where they stood, of all stands and anything that would make the place look like home, so that if any bee should return it will find nothing home-like. Some time in the middle of the forenoon, go to the hives, and before opening them pound hard on the hives so as to make them roar. Then open the entrance, having in front a board set up for them to strike their heads against as they issue from the hive. It will be as well if the entrance is not opened very wide at first.

Nowadays the favorite way of transferring is to wait until the bees swarm, and hive the swarm in the new hive, seting the swarm on the old stand and the old hive near it. Then 21 days later, when all the worker-brood is hatched out, you can chop up the old hive, add the bees to the swarm, and melt up the combs. Of course, if you prefer, you can transfer in the old way during fruit-bloom, as directed in your bee-book.

Mating Queens to Choice Drones —Preventing Swarming

1. How can I get a fair percentage of queens mated to my choice drones? Can

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I cut out all drone-comb in my inferior colonies with success, replacing with worker-comb or foundation and allow no drones to be reared in my own colonies?

2. I have the Danzenbaker hives and I propose to prevent excessive swarming, as I do not care for any increase, by shaking all or nearly all of the bees out of the old colony, just about the time they would naturally swarm, in front of a new hive filled with full sheets of foundation or empty combs as the case may be, on the site of the old stand; placing the old colony, now almost beeless, on top of the new colony supers and roof, facing another direction, contracting the entrance somewhat, and gradually turning the new hive around until the end of 3 weeks, when all brood has hatched out, and then shake the bees from the upper hive on the ground in front of the former "shook" swarm. Extract the honey from the top hive, and pile it away for use another year. Will it work, or would it be better to set the old hive on an altogether new stand, and at the close of the honey harvest, brimstone, and extract or pile the combs away for feeding?

OHIO.

ANSWERS.—1. Your proposed cutting out of drone-comb is a step in the right direction, but not so very long a step with other bees ¼ to 2 miles away. But to do anything beyond that step is not easy, except to encourage drone-rearing in pure stock by allowing or giving considerable drone-comb and keeping the colony strong. Some have proposed putting in cellar the hive containing the virgin, and also the hive containing the drones, bring them out after flight of drones is over for the day, and giving thin syrup or honey to induce flight.

2. Either plan will work, but the first probably better than the second.

Italians or Black Bees—Honey and the Teeth

1. I notice that somebody speaks in favor of the Italian bees, but some others prefer the black bees. I am an amateur bee-keeper, have 2 colonies of common black bees in 10-frame hives, and am running for extracted or chunk honey. Considering the dry summer, my bees did pretty well with some sort of management. Taking it to be the fact that my bees are one and the same family—namely, the queen in one colony is the mother of the queen in the other colony—here is the problem I want to question. On the one side there may be danger of inbreeding, but on the other side if I buy and introduce an Italian queen there will be the danger of hybrids. Sending away for an Italian queen might in one way or another be a poor job. As I believe, inbreeding is bad; and hybrid bees may also be bad or objectionable because of temper. What have you to say in this matter? What am I to do about it?

2. Somebody claims that honey is bad for the teeth, and that it causes toothache. I would not believe it, but since fall I have had plenty of honey to eat and my teeth have been in poorer condition than before. Have you anything to say in reference to this?

WISCONSIN.

ANSWERS.—I don't believe there is as much danger on either hand as you suppose. Unless neighbors' bees are 2 miles distant from you on all sides, there is the probability that your young queens will meet drones from abroad. On the other hand, if you introduce Italian blood, it is not likely that you will increase the violence of the temper in your bees as much as you suppose. The probability is that what you consider pure blacks are hybrids, having at least some Italian blood in them, for it is somewhat doubtful if pure black blood can be found in Wisconsin at the present day. Of course I can not say how good your bees are, but the probability is that the itroduction of pure Italian blood would increase your crop of honey.

2. I do not like to speak with too much positiveness, but although honey or any other sweet causes pain in teeth that are out of condition, I doubt if the sweet causes the decay.

Hiving on Empty Brood-Combs—Full Sheets of Foundation, Etc.

1. Will bees hived on empty brood-combs during a good honey-flow produce as much comb honey in supers as they would if hived on full sheets of foundation?

2. What is the best way to handle bees in regard to room between the white honey-flow in June and July, and the buckwheat flow in August? My bees are then too strong to occupy an ordinary hive-body, and if given new sections they destroy the foundation and spoil the sections.

OHIO.

ANSWERS.—1. Being saved the extra labor of building comb, they ought to do more in surplus. I think they will, although I have seen it stated that they would not. Possibly that might be so under some peculiar circumstances, but as a rule I should expect a gain from the full combs.

2. I don't like to get into a quarrel with you, but I am hardly ready to accept your statement that your bees are too strong to occupy an ordinary hive-body, and at the same time destroy foundation in sections. Not but what that is true, too, but I don't agree with your evident belief that the bees need some super-room. If they tear down the foundation in sections, they are not gathering anything more than they need for their daily use, and so need no super-room.

"Can't have room to stay in the brood-chamber?" Let 'em stay out, then. Won't hurt 'em a bit to cluster outside the hive till it is time to put on sections for the buckwheat. This on the supposition that you want the buckwheat stored in sections. Another way is to give them a second story. If you haven't many extra combs to put in second stories, one or two combs in each story will be enough so long as they are storing nothing, and you need not be troubled with the thought of the empty space in the upper story.

Don't be worried about the character of your questions. Any question is legitimate that fairly belongs to bee-keeping, and is not answered in the bee-keeping text-books.

Management for Extracted and Section Honey

I would like this year to have both section and extracted honey. I have a plan I would like your judgment on before I go ahead with it. My plan is, during fruit-bloom, to remove the bees from their stands, putting in their places hives filled with empty combs or foundation less one with some brood, and probably another with honey, which is to be left in the center. Next is a queen-excluder on the lower story, then a super for section honey, and then put on the old hive with the bees. Now fix the cloth in front of the lower hive, and take the bees out of the top hive, one frame at a time, and shake them all on the cloth. Then put on section supers as needed. In that way I would have both section and comb honey for extracting, as the bees would have the top hive to fill after the brood has hatched, besides the surplus in the lower brood-chamber. I believe only sealed brood should go above the excluder, on account of the bees building queen-cells with young brood. Now the question is, Will the bees go up and take care of the brood, or will they stay below? If they would go up and take care of the brood, I don't see why the plan would not work. I don't suppose I could work them all that way, because I would not have enough sealed brood to go around. I think it ought to be done during fruit-bloom, and I guess I would have to feed them between fruit-bloom and alfalfa bloom.

COLORADO.

ANSWER.—The bees will take care of the brood above, only you would better not shake off all the bees, for if you shake all off they may be a little slow about finding their way up. The plan will work just as well if you shake the bees off half the combs. It will be all right to put unsealed brood above if you kill queen-cells in about a week in the upper story. If you leave the sections under the brood until sealing you will find the sealing darkened. After a good start is made in the sections, better set the brood down on the excluder and the sections above the brood.

Bees Enticed Out in Winter

May, 1910, I bought 1 colony of bees from a neighbor, and 2 weeks after I had a large swarm from it. About 10 or 12 days later a second swarm issued, somewhat smaller than the first. A few days later a friend 'phoned that he had found a swarm and wanted me to come and get it. I went and brought it home, which made 4. I got about 120 pounds of comb honey, and left the brood-chambers full for them to winter on. They all seemed strong and healthy. I built a large box, about 8 or 10 inches larger, all over, than the hives, and packed them in planer shavings. About Feb. 1st I discovered that the inmates of the mother-hive had dysentery. At noon, when the sun was shining, although the temperature was 10 degrees below freezing, they would come out in large numbers to cleanse themselves, but would get benumbed before thy could return, and fall to the ground and die on the snow. On a mild day I uncovered the hive and found no ice in it. It was dry, and the bees came up over the frames quite lively. I did not feed them in the fall. They had nothing but their own stores to feed on, and I can think of nothing that could bring this condition about. I have read my bee-books through, but can find no answer. Kindly tell me what in your opinion is the cause, and what the remedy

NEW YORK.

ANSWER.—Hard to say. There seems some inconsistency in having the bees dry and clean, and yet coming out with diarrhea when it was 10 degrees below freezing. It is possible, however, that they were not really troubled with diarrhea, but only enticed out by the bright sun shining on the snow, a thing that may easily happen with the thermometer at 22, or 10 below freezing. The remedy for that state of affairs is to set a board up in front of the hive as a blind to keep the sun from shining in. The colony being very strong, it is just possible that the entrance was too small. It should hardly be less than 6x⅜ for a strong colony.

The Miller Frame

A Pennsylvania correspondent wants me to send him a Miller frame in the flat, as a sample. I have no frames in the flat, but will tell how the Miller frame is made, copying from "Forty Years Among the Bees:"

The frame is of course the regular Langstroth size, 17⅞x9⅛. Top-bar, bottom-bar and end-bars are uniform in width, 1⅛ inches throughout their whole dimensions. The top-bar is ⅞ inch thick, with the usual

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saw-kerf to receive the foundation, and close beside this is another kerf to receive the wedge that fastens in the foundation. The length of the top-bar is 18⅝ inches, and ⅞x9-16 is rabbetted out of each end to receive the end-bar. The end-bar is 8 9-16x1⅛x⅜. The bottom-bar consists of 2 pieces, each 17⅝x⅛x¼. This allows ⅛ inch between the two parts to receive the foundation, making the bottom-bar 1⅛ inches wide when nailed.

The object of the two parts to the bottom-bar is to allow the foundation to come down between them, thus making a close fit without any pains to cut the foundation exactly. After the comb is built in the frame the bottom-bar is no better for being in two parts—perhaps not so good. Some of my frames have a solid bottom-bar 17⅝x1⅛x¼, with the foundation cut to fit exactly down on the bottom-bar. I like them just as well.

The side-spacing, which holds the frame the proper distance from its next neighbor, is accomplished by means of common wire-nails. These nails are 1¼ inches long and rather heavy, about 3-32 inch in thickness, with a head less than ¼ inch across. By means of a wooden gauge which allows them to be driven only to a fixed depth, they are driven in to such a depth that the head remains projecting out a fourth of an inch.

Each frame has four spacing-nails. A nail is driven into each end of the top-bar on opposite sides, the nail being about an inch and a half from the extreme end of the top-bar, and a fourth of an inch from its upper surface. About 2¼ inches from the bottom of the frame a nail is driven into each end-bar, these nails being also on opposite sides. Hold the frame up before you in its natural position, each hand holding one end of the top-bar, and the two nails at the right end will be on the side from you, while the two nails at the left end will be on the side nearest to you.

The end-spacing is done by means of the usual staple, about ⅜ inch wide.

Winter Packing and Heat Transferrence

Having read your book and writings until I feel as if we were your personal friends, I make bold to furnish you with the information that you say you lack in replying to "Ontario," on page 52, of the February American Bee Journal. While paper is lacking, no doubt, in the absorptive properties that planer-shavings possess, it has only about half the conductivity, the figures being, paper .27 to .35; mill shavings .65; *vide* "The Transmission of Heat Through Cold Storage Insulation," by Paulding, sold by D. Van Nostrand Co., 23 Murray St., New York, N. Y. So many factors enter into the matter of heat transferrence that I feel that E. R. Root and many other writers should master the formulæ in this little book before "laying down the law." I don't wish to be critical, especially of a person who is doing the good that you are doing, but merely suggest to be helpful, that all bee-writers should have a book on refrigeration engineering.

MICHIGAN.

ANSWER.—This letter from The Johnson Milk Co., Battle Creek, Mich., will help out "Ontario," and perhaps others, in a matter plainly not so well understood by bee-keepers as it should be. The writer evidently speaks "by the card," and hearty thanks are hereby tendered for the information.

Exchanging Brood for Foundation—Hive-Ventilation—Queen-Cage Candy

1. When 2 frames containing brood are removed from a hive, and frames with full sheets of foundation are given, should the latter be placed at the side, or where the frames are removed?

2. Would it be a good plan to bore holes in the rear of the hive for ventilation? and where?

3. In Farmers' Bulletin 307, page 41, under "Introducing Queens," Dr. Phillips writes: "In view of the fact that disease may be transmitted in mailing cages, etc., the queen may then be put in a clean cage with candy known to be free from contamination (made from honey), etc." How is this kind of candy prepared?

ILLINOIS.

ANSWER.—The gist of the plan is to cage or remove the queen after getting the colony very strong, 8 or 10 frames of brood if possible; then in 10 days divide into nuclei, giving each nucleus 2 frames of brood with queen-cell and adhering bees and a comb of honey. So far nothing unusual. Now comes the special part of the Somerford plan, which is to close the entrances to the nuclei by stuffing into them green moss, grass, or leaves, making it so tight that the bees will be 2 to 5 days gnawing it open.

Replying to your questions, you can hardly say that you return the queen to the parent colony, for the colony is broken up; but you do leave her on the old stand at the time of division. My advice would be not to cage the queen, for you will get more cells to remove her. If she is old, you may kill her. Likely you will want to kill her, as she is supposed to be extra-good stock. So when you unqueen the colony, make a nucleus on a new stand by taking two frames of brood with adhering bees and the queen, also a frame of honey. Then at the end of 10 days, when you make the divisions, put the hive with the queen on the old stand, and put one of the nuclei on the stand from which you have just taken the queen. Neither of the entrances of these two hives should be fastened shut. Thus you see the old queen never stops laying. She is put in a nucleus for 10 days, and then goes back on the old stand.

Do not unqueen the colony until it is very strong and the bees are busy gathering; and this will not generally be until the time when bees begin preparations for swarming.

Using Hives Where Bees Died

I wintered my bees in the granary last winter, and of 19 colonies only 8 lived through the winter. They seemed to be troubled with dysentery, and the stuff they passed was ¼ inch thick on top of the frames. The last 4 hours of the bees' lives they seemed to pass nearly a teaspoonful, and all of very bad odor. This winter I left them on the summer stands with these results: From 18 colonies all but 3 died of the same disease. The hives are full of nice looking honey. Would it be all right to put a colony of bees in these same hives without removing the honey? I have an idea that the sudden change in temperature caused the hives to become damp, and thus the disease.

MINNESOTA.

ANSWER.—The likelihood is that the granary was too cold a place. A well ventilated cellar might give better results, being warmer. It is possible, also, that they were not packed warmly enough on the summer stands, especially on top. It is just possible, also, that the honey was at fault, but in that case it would likely be dark from honey-dew. It will be all right to use these hives without removing the honey. Even if it should be honey-dew, the bees can stand that all right when flying daily.

Getting Honey and Not Increase

1. Suppose a person does not want to buy any more hives then he has, and all his hives are filled with bees. What is the best way to follow to get a good honey crop; that is, to prevent weakening colonies by swarming? In such a case, as I understand, "shook swarming" can not be practiced, because an empty hive is required. The problem then is, notwithstanding possibilites of swarming, the colonies are to be maintained to utmost capacity. Production is for comb honey.

2. On page 52, on "Prevention of Swarming," you say in answer to a question, "If you should remove the queen a few days, etc.," I do not understand your answer. If it takes a queen 16 to 17 days to develop (the queen of the colony having been removed), how could a swarm issue before the end of 8 days? You will see that the item referred to might answer my question, but if it does so completely, I do not understand it.

3. Did you ever practice the strengthening of a weak colony by reversing the hives, respectively of a weak and a strong colony? As you seem to understand German, I will state that Berlepsch recommends this during a "volltracht," which I suppose means a "fullflow." This looks very easy, only may be too late for securing full advantage from the strengthened colony.

I have 8 colonies, and so far every one has wintered well. Yesterday (April 5) was almost the first mild day, and things were lively all over, even in case of a colony made up last September by uniting, and which to some extent had been robbed, and from which I removed during the winter a lot of dead bees.

PENNSYLVANIA.

ANSWERS.—1. A very old-fashioned way is simply to return each swarm as many times as it issues. That's all there is to it. You will hardly like the plan—too much work. You can cut out most of the work. When a colony swarms, return the swarm and kill or remove the old queen. Seven or 8 days later cut out all queen-cells but one—the bees will do the rest. Instead of this way, you may like another way: Return the swarm and kill the queen, as before. In a week begin to listen each evening for the piping of the first virgin that emerges from her cell, by placing your ear against the side of the hive. You will hear her more easily in the evening because it is quiet then. When you hear her in the evening, go to the hive the next morning and destroy *all* queen-cells. There will be no more swarming. This last way is better, because if you destroy all cells but one you may not leave one of the best cells; indeed, there is such a thing as you leaving a cell with a dead larva in it.

2. Your estimate of 16 to 17 days is too much. Fifty years ago that was accepted as correct, perhaps because observations were made in nuclei or weak colonies. The latest estimate is 15 days from the laying of the egg to the emergence of the virgin from her cell, if the colony is strong and all conditions most favorable. "Virginia" proposes to remove the queen, and then 8 days later destroy all cells but one. Suppose the queen had laid an egg in a queen-cell before her removal. In 9 days more, or 16 days from the time the egg was laid, "Virginia" goes to cut out cells, and finds the virgin is out ahead of him. Suppose, however, that at the time of the removal of the queen no queen-cells had already been started. The bees would start cells with larvæ a day or two old—possibly less than a day old—and no virgin would emerge until 11 or 12 days after the removal of the queen. In that case he would be all right to kill cells 8 days after dequeening.

3. I think I never tried strengthening in that way. There is danger of the death of the queen in the weaker colony unless in a time of a full flow, and strengthening of weak colonies generally occurs before the heavy flow, or after it.

Seemingly Resultless Effort—Soft Maple—Getting Swarms from High Trees

1. My bees work early and late on catnip, sunflower, cucumbers and muck-melon vines without any apparent success.

2. Last year the outside-wintered colonies produced more honey than cellar-wintered.

3. Do bees get food or honey from the sap of soft maple stumps or logs recently out in the spring?

To get a swarm from outside limbs of rather high trees, take a long pole or two fence-boards nailed together, tack a horse-shoe on the end, hook over the limb close to the bees, then by giving a quick jerk the bees will fall and fly, and likely to re-alight on the pole. Unhook and let the bees down.

ILLINOIS.

ANSWERS.—1. Probably at the time they are working on these plants they can not gather more than they need for their daily wants, yet that amount is important, for it saves just so much of the stores already present.

2. That might, and it might not, be due to wintering, but as you are only a little north of latitude 40 degrees, outdoor wintering is likely to be better for you.

3. It is probably used up as food; but if they should get enough of it they would no doubt store it.

Management to Prevent Swarming

1. Just before swarming time if I raise the brood-chamber and put an empty one under it with a queen-excluding honey-board between them, then take one frame of brood and the queen and put below, what will become of the drones as they hatch out from the upper story?

2. Should there be an entrance or hole in the upper story for them to go out?

3. I believe this is called the Demaree plan, is it not?

4. Do you consider this plan a good one when only extracted honey is wanted and no increase in number of swarms?

SUBSCRIBER.

ANSWERS.—1. In the course of time the drones will die, and their dead bodies will be found on the excluder. The workers will tear the bodies in two, but will not be able to pull the hard thoraxes through the excluder, where they will accumulate. Not a nice thing, and yet it doesn't seem to do a great deal of harm.

2. Yes, and if you do not care to preserve the drones it would not be a bad plan to keep the hole generally plugged shut, opening it once in every few days in the middle

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of the day, and as soon as the drones are all out closing it again.

3. Yes, G. W. Demaree, a prominent Kentucky bee-keeper, gave it to the public a good many years ago.

4. Probably for most bee-keepers an excellent plan. A few have reported that bees would swarm after being so treated, but for most it has stopped swarming entirely. Some have reported that after being put below the excluder, the queen has swarmed out. Very likely this would not happen if one brood-comb were left below, preferably one with the least brood in it.

Some Questions from Ontario

1. I have been going to write all winter, and hoped to get this ready for the March number, but now fear that the fraternity will not profit by my blunders until after April, when they will have time to read for the spring rush. But I can't help ill health, and it is no use talking to no purpose.

In the first place, I am told that bees can't rear brood on sugar syrup; is it true? The bee-papers should be written more for beginners than for experts. I have read them for years, and only now learned through the report of the National that to get a large surplus it is imperative that we feed between fruit-bloom and clover, and, dear Doctor, you yourself have warned beginners against stimulative feeding in the spring, as we might do more harm than good, and it is true; yet we have had more success with feeding than without. I think I told you of a colony last year that were fed until they were too lazy to do anything, and I have more to relate to the same effect further on, for the past season.

2. How can we keep the bees from putting cells of pollen here and there, perhaps a dozen on a side of every comb? The Carniolans did it worse than any of the Italian or Italian black hybrids.

3. Do you think that cutting the heads off drones tend to make the bees cross? I did this frequently to prevent swarming, and have got mine so cross that they will meet me to sting me an eighth of a mile when returning home after an absence of a half hour. I cut the heads off a frame of capped worker-brood, much against my will, in one hive, as recommended by Dr. Jones in the West, and, I judged, with injury; less honey and more pollen. It looks to be such an unreasonable practice.

4. Do you not think that every colony has an individuality of its own, and ought to be studied separately? I had only one colony that would put up fine comb honey in shallow frames to perfection, equal to the best section honey. What I mean is this, if any person came along who was anxious for a frame of new honey, I was likely to get it here if none of the other dozen colonies could supply it.

5. Can you suggest why my bees would not put a speck of white honey in sections that had been on the hives for 3 weeks or more, yet would put dark honey in them, with coaxing? I was never built for a bee-keeper, and am tired of experimenting because I have not brains for the business, and the bees "checkmate" me at every turn?

6. I took my bees from the cellar on April 5th, about 44½ N. latitude, N. of Lake Ontario. My yard is on a knoll exposed to a 4½-mile sweep of southwest wind that by strips of woods is directed to my place as if it came from a funnel. I can scheme no satisfactory shelter, and last season I moved part of the bees from a hollow where there was no sun after 1 o'clock, and placed them in pairs 10 feet apart for all of them on the knoll, and painted one hive of each pair blue in front for guidance.

7. In one of the bee-papers I read that Mr. Danzenbaker had, after many years use of the shallow bottom-boards, gone back to deep ones, so I made all my bottom-boards nearly 1¾ deep at the entrance off to ⅛ or ¼ at the back. Father Doolittle also said he used a wire entrance-guard coarse enough to allow bees to pass and mice could not. These two eminent men taught me the lesson not to believe all that even an eminent man writes. After fitting all my hives with the wire screens, I found that any metal or even paint on a bottom-board condensed moisture in the cool of the morning, to be an injury to the bees. With the deep bottom-boards the bees would fly clear from the cluster out of the entrance, and at least one-third of them would catch their wings in the dew on the painted bottom-board. Part of them would be turned on their backs with both wings entangled in the wet, and be half exhausted in their efforts to escape; the rest might catch by only one wing, and they would escape easier.

8. It is barely possible that locality may have made some difference to the deep Danzenbaker entrance, but the Carniolans taught me something worth while; one of them from which I was trying to rear drones for crossing with my Italians, having seen the cross spoken well of by some writers. I had fed them until they occupied a good half of the full-depth super above the excluder, when, on June 13th, the warm weather started, and while the other bees were getting honey, seeing but little movement around the entrance to this one, I opened it up, and I believe there were not 200 bees in the upper story, but it seemed so much more comfortable to cluster below out of the heat and wait until somebody fed them. I don't think they had one ounce of honey. I promptly gave them a shallow bottom-board and took away all their combs but one, giving them full sheets of foundation instead, and told them to go to work or starve! I think I ought to have taken away even the last comb, which I did 2 days later, and they started to gather a little honey and build combs, and I thought I would make them build combs for other hives, but found it difficult to steal combs from them early enough to be of any use; for they would have cells of pollen or eggs in them before they were one-third built, and eventually had their hive filled with pollenized combs before I could take them away, in spite of all I could do.

9. The first Carniolans I had balled their queen late in 1909, and reared another—I supposed too late to mate, and I tried to find out if they had a queen by the sifting process through an excluder, when they all decamped, being a few on one bush and a few on another, or went into the hives. I should have said that the brood taken from the other hive I distributed in weak colonies for convenience. I did this once before, and judged it an injury by their teaching others their bad tricks. Their third Carniolan swarmed and went away, and never did any good afterward; so I made myself happy by giving them all in both hives a dose of bisulphide of carbon, and dug a hole and buried them. No more Carniolans for me. The breeder of these Carniolans was well recommended to me, and I sent for untested queens, probably too late in the fall, and he sent me tested ones at the same price—likely all he had left; and the next season he advanced his prices 50 cents. I should have been glad to return my queens for 10 cents each.

10. I learned one other lesson by the deep bottom-board, and the high southwest wind. The wind drove the bees from the front of the hive until there was not a bee visible in the first 3 spaces between the combs, the frames being short, set crosswise of the hive, and the entrance at the end, or the 16¼ way of the Danzenbaker hive.

11. Through continued ill-health ever since I tried to keep a few bees, I have always been behind. I have never had either supers or combs enough; yet on the advice of our worthy manager of the National Bee-Keepers' Association, N. E. France, I determined to try for some honey with one hive worked, except one blunder, on the Allen plan given on page 80 of the National Report for 1909. I tiered this 4 stories high with full-depth supers of 9½ combs in 3 of them; the fourth one they built combs for, from full sheets of foundation, except 3 partly-built ones that I stole for them from the worthless Carniolans, and I got them all filled with honey, bees or pollen. I extracted one full super of white honey from them when ripe, and left 2 others on too long. I had read of having too many bees in a hive, but never had the happy experience until last season, without apparent injury; but before I could get through with the extracting, after leaving them, as I supposed, enough combs for winter, all I had was about 8 pounds of surplus over and above that of the first super extracted. If they consume honey in the cellar as they did in November, they may starve.

12. I can't find the date of putting the bees into the cellar, but certainly late in November. I put this hive in the celiar 2 stories high, because it seemed impossible to get the bees into one; I never did so before, and the water was running out at the entrance when I looked at them a few days later (porous covers). I have always hoped to get my bees in the cellar in October, but am always behind. I think Oct. 15 preferable to Nov. 15. There was frost every night. Temperature 26 degrees this morning—April 11. Not a blade of grass to be seen in the most sunny corner, and a bit of snow in the garden yet. This colony became the most vicious one I ever had. NOVICE.

Ontario, Canada.

ANSWERS.—1. No; and neither can they rear brood on honey alone. They must have pollen. With pollen they can rear brood with either honey or sugar syrup. It is claimed, however, that honey is better material from which to rear vigorous bees, because it contains matters not to be found in sugar. Especially Swiss authorities insist that however sugar syrup may be as a winter food, it should not be used when brood is being reared; and it is hard to find anywhere in the world abler authorities than in Switzerland.

It is imperative to feed between fruit-bloom and clover, only where there is so long a dearth between the two that brood-rearing stops entirely. I think that does not occur in a great many places. Certainly not here, and I doubt if it occurs often with you. It occurs in Colorado, and probably in some other places.

I can hardly agree with you that bee-papers should be written more for beginners than for experts. Please remember that beginners are becoming experts constantly, and if every bee-keeper becomes an expert there ought to be as many experts as beginners. Indeed, some think too much attention is given to beginners, and as you become an expert you may look upon the matter in a little different light.

2. You do not say whether you refer to pollen in brood-combs or in surplus. In brood-combs I know of nothing to prevent it, and it is not very objectionable. In surplus comb honey it is very objectionable, and it is within the power of the bee-keeper to encourage or discourage it. The closer to the brood, the more pollen in sections. Shallow brood-chambers make more pollen in sections than deep ones. Thick top-bars, or anything else that increases the distance is a help against pollen. Another thing of much importance is the foundation in sections. If drone-comb is as scarce in the brood-chamber, as it should be, and small starters are used in the sections you may be pretty sure that drone-comb will be built in the sections, and when drone-brood is started there, worker-brood is likely to accompany it. Either use a queen-excluder to keep the queen below, or else fill the sections full of foundation.

3. I don't know for sure, but it hardly seems that beheading the brood should make the bees cross, unless exposure to robbers or something else accompanies it.

4. Yes, there can be no doubt that each colony has its own characteristics. By paying attention to the difference in colonies, and breeding accordingly, one should be able to improve one's stock.

5. I suppose it merely so happened that they were not getting enough white honey to store surplus, having only enough for daily use, and then when the dark honey came there was more of it so that they had enough for daily use and a surplus beside.

That very fact, that the bees outwit one so often, is one of the beauties of bee-keeping. Keeps one on the alert all the time, and if one comes out ahead at least part of the time there's a lot of comfort in it. A game of ball would lose its interest if you knew to a dead certainty that one particular side would beat every time.

6. You took your bees out a week earlier than I. I'm in latitude 42, but the sweep of prairie winds is such that the cold may be worse on the bees here than with you.

You give your bees a good deal of room. Mine are placed in groups of 4—2 pairs back to back—and I never feel there is any need to have fronts painted different colors.

7. I wonder if there is not some mistake. What is called the Danzenbaker bottom-board is really the Miller bottom-board, and has one side deep and one side shallow. So that Mr. Danzenbaker uses a deep bottom-board part of the year, reversing it and using a shallow bottom-board the rest of the time. I have given up the reversible board, using a bottom-board 2 inches deep all the year around, filling in a bottom-rack to keep the bees from building down in summer.

I think Mr. Doolittle does not use a coarse-meshed wire-cloth to close entrances at a time when bees are flying, but in the cellar in winter. It works well then.

8. I hardly think the deep entrances were to blame for the bees not working. Certainly my bees do good work with a 2-inch space below the bottom-boards, only I must put in a rack to keep them from building down. But the rack is so open that they have nearly the whole benefit of the 2 inches of space.

You can not get bees to build out comb much ahead of their filling it. Likely ¼ inch deep is the best you can do. But a little honey or pollen in a comb can do no harm if

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you want to give it to another colony as a brood-comb.

9. I never had the experience of having bees desert when sifted through an excluder. Possibly you had no brood for the bees to go upon. That might make a difference.

10. In the cool weather that comes when the bees are first taken out of the cellar, so large an entrance should not be allowed. Just as soon as my bees are on the summer stands a thin board closes the entrance entirely, except a hole at one lower corner about an inch square. Then when the weather becomes warm they have the full entrance 2x12 inches.

11. I hardly believe the deep entrance was to blame.

12. Some years Oct. 15 might be all right for cellaring bees, but generally it would be too early. No fixed date can be given for cellaring bees, and it is always a matter of some guessing. In a year when you feel pretty sure the bees will have no chance for a flight later, then Oct. 15 is all right. If you could know that the bees would have a good flight-day Dec. 10, then it would be better to wait for them to have that flight. As nearly as you can guess, cellar your bees next day after their last flight. But a week too early is better than a day too late.

REPORTS AND EXPERIENCES

Thousands of Acres of Bloom

Spring is here, and there are 3000 acres of fruit-trees in bloom, with wild flowers blooming, also. There are thousands of acres of alfalfa which will soon be in bloom, if let stand. HENRY C. BARRON.

Hagerman, N. M., April 21.

Wintered Well—Cold Weather

Bees with us have wintered well, but the cold weather we are getting just now is unfavorable, and it looks as if we might lose several times as many bees during the spring as we did in the winter.

J. E. CRANE & SON.

Middlebury, Vt., April 24.

Over 5 Months Without a Flight

We went into winter quarters with 63 colonies, all in double-walled chaff hives. Their last flight was Oct. 22, 1910, and they never flew again until March 20, 1911. All have wintered in fine condition, except one colony. L. C. STONE & SON.

Itaska, N. Y.

Bees in Good Condition

Bees wintered well and are in good condition. There was a good supply of fall honey gathered here, but very little spring honey, last season. We have tried many different kinds of bees, and now have the red-clover Italians, as we think they are the best.

H. S. CROFTS.

Vanderburg Co., Ind., April 19.

Prospect Not Good for Honey

The weather continues cold, and the prospect for a large honey crop is not very brilliant. The bees have been very slow building up this spring, but some of them are in fair shape for the orange bloom. I opened one hive yesterday that had 8 solid frames of brood, but the majority have only 3 or 4 frames. B. W. BROWN.

Moreno, Cal., April 4.

Utilizing Foul Brood!

"Non-swarmers already possible." Yes, I have them, and all of this strain is foul-broody. Some of us know well that as a means to keep down increase foul brood is as good as any—it is the shortest cut, and therefore better. Why, then, not turn this scourge to some good. (?) But, after all, is it not quite possible that a bee that never feels like swarming does not always feel just right?

Knox, Ind. D. ROBERTS.

Bees Busy in Louisiana

I write you of the doings "away down South" about my bees. I moved all my bees in March, a distance of 2 miles, in the daytime. As soon as I placed them where they were to stay, I took off the guards and let them fly at once. We have had blooms for more than a month. The bees have been busy every day on maple, plums, peaches, pears, apples, elm, blackberry, haw, whitewood and white clover, and later on we will have blooms of lake cress, persimmon, button-willow, Japan clover, black locust; and in June we have a honey-flow from the trees, and so heavy that I have seen it drip from the leaves; and then later come fennel, bitterweed, cotton and corn-tassel.

My bees are working from 7 a.m. until 6 p.m. I have been preparing for increase this year. On Friday, March 29, I brought out a new hive (8-frame) and had just placed it, and had sat down to watch the workers drag out the drones, and all at once out came a very large swarm, about my big hat three times full, and exactly at 5 o'clock in the afternoon. So I went early yesterday morning to see how they are doing, and found them flying in search of food, and they have worked hard all day. Some of them have such heavy loads that they could hardly get back to the hive.

W. R. CUNNINGHAM.

Rayville, La., April 2.

Keeping Bees on Shares

In the March American Bee Journal, page 83, "Idaho" asks Dr. Miller how A and B should divide the proceeds of the bees kept by B "on halves." That depends upon the *time* the agreement was to run. If the agreement was for one year only, then the "divide up" should be at the close of the year, and A would get no further proceeds from B's half of increase; but if the agreement was for a term of years, the bees are not divided until the agreement terminates by limitation and each receives one-half of the proceeds.

Acton, Calif., March 25. C. T. WISE.

Unusually Good Wintering of Bees

It may interest some readers to learn that the bee-keepers residing along the banks of the Hudson River have had remarkably good success in wintering their bees during the past winter. Honey-bees wintered on the summer stands in this vicinity usually sustain a loss of about 10 percent, but last winter only 3 colonies were lost out of 104 that were wintered on the summer stands on my fruit-farm. The bees belong to James McNeill. This is the smallest winter loss that he has sustained during the 5 years that the apiary has been conducted here.

F. D. CLUM, M. D.

Columbia Co., N. Y., April 17.

Foul Brood Treatments—Uniting Colonies

I am at my bee-ranch at this time, taking care of a horse that got a bad wire-cut, and feeding my weak colonies of bees to bring them up to the prospective honey crop. I have read quite a bit in the bee-papers in regard to curing foul brood. About 15 years ago I was rearing bees in the valley, and selling to bee-men in the mountains. When I had sold out I would go out and buy box-hive bees from Tom, Dick or Harry, and transfer them and make more increase. In that way I picked up foul brood. Bee-men got scared and did not want to pay much for bees. In 1900 I picked up this ranch and moved my outfit here. I had several colonies that had foul brood. I gave them the McEvoy treatment, which was in no way satisfactory. With me, when shaking the bees on starters of foundation, more or less honey would fly outside the hive, and on the hive, when some robber-bees would come along, pick it up and take the disease home. Half of the shaken swarms would desert the hives and try to get into other hives, so I gave up that treatment.

In 1904 we had a hard year. I gathered up all the bees that had foul brood and pickled brood, and hauled them 6 miles from the apiary—27 colonies; set them out of the hives into a pile, threw some brush on them, and touched a match to them. It made a nice fire, and that was the best cure I ever struck, except the Baldridge treatment, if you want to save the bees.

In 1905 I had 3 colonies slightly affected. I gave them the Baldridge treatment, and cured them, and have had no disease since. The Baldridge and fire are both safe treatments. In using the fire treatment, don't burn them at the ranch for bees to go back and go into other hives. To keep your bees fat, with a good queen, I think goes a long way toward keeping the disease down.

My plan of uniting colonies I learned from Dr. Gallup years ago. At the commencement of the main honey-flow, all colonies that are not what they should be, or close to it, are united by putting a super on, and bringing the other hive up to it, and setting them into the super with a little smoke; close the hive and it is done. I have united hundreds, and have never yet found more than a dozen dead bees at the entrance from such uniting. Colonies that have been queenless long, and perhaps have laying workers, I let alone and throw swarms into them.

I never disinfect any hives where foul-broody bees were taken out, unless there was honey daubed on them.

Where bees could not reach the orchards or bean fields last year, in this locality, losses were heavy, as much as half the bees. There was very little honey in the mountains last year. Desert winds blighted the sage-bloom just when it was coming in.

S. Q. CONKLE.

Garden Grove, Cal., March 28.

Bee-Keeping in Virginia

We have had a mild winter, yet it seems our bees are ill-fated, and must die. We have had 2 years of almost total failure, and, while bee-men are always hopeful, I am almost ready to predict another failure this year, as the soft-maple has already bloomed and was killed, for a start.

I have a bee-yard in North Carolina and one in Virginia. The one in North Carolina has depended upon me for their daily meals for 2 years, except for about 3 months last summer, and then they carried their support a distance of 5 miles from a 40-acre buckwheat-field here where I live; and had to climb the Blue Ridge Mountains, too. Now don't dispute this, for when I went to the apiary I went the same road they did, and there was no buckwheat in their vicinity.

Galax, Va., March 30. G. F. JONES.

Plenty of Rain—Crop Prospects Good

We have had plenty of rain here this winter, and crop prospects are very good, as nearly all the rains have come since Jan. 1st. Last season was a poor one, the bees getting very little honey on my ranges after the orange-bloom was over last May, and the season up to about March 10th was too cold, especially at night, for brood-rearing. The bees are therefore nearly a month late in starting their brood this year, and apiaries, in consequence, have dwindled badly, some apiarists losing as much as 50 percent of their colonies, and the rest of the bees being reduced to almost nuclei. Vegetation is late also, so may be the bees will have a chance to build up. JOHN LEFLER.

Mentone, Calif., March 24.

Bee-Keeping in Central Illinois

As I am a reader of the excellent American Bee Journal, I thought I would hunt up some of my neighbor bee-keepers and get them to subscribe for it.

I visited one who had 20 colonies of bees. He had them in old-fashioned box-hives, with only 2 cross pieces, and no way of getting the honey out except prying off, and that was like murder, for it drowned so many of the bees. His youngest son told me he had not tasted honey for over one year. His hives were so old and rotten that one could press the fingers against them and break a hole in them. Now can you tell me what a man like that keeps bees for? Is it to punish them? it looks that way to me.

I next visited his brother, and he had 18 colonies. They were also in the old-time box-hives, except one colony which was in

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an old beer-keg, and it was almost rotted down. The hoops were falling off, and the foundation was rotten and filled with ants. Some of his hives were rotting off at the bottom and falling over; some had rat-holes in them, and he had 8 hives in a wooden cage made of heavy oak 2 by 4's, and nailed together with 20-penny nails. The weeds had grown up around them until the bees had to work their way underneath the hives. I straightened the poor things up the best I could, and he thanked me for what I did, but I did not do what I did for his thanks. I did it for the sake of the bees. In spite of this awful condition the bees were working fine and bringing in pollen. They seemed to be strong and healthy. Now, this man never got enough honey to furnish his table, and there were only 2 in the family. I tried my best to get him to take the American Bee Journal, or Dr. Miller's book, but I could not get him to do anything.

What do you think of such men? If there are humane laws to protect the dumb beasts and the birds, ought not there to be a law to protect the little insects that so faithfully serve mankind and bring such a great blessing to him? Talk about heathen that ought to be enlightened, don't you think bee-men ought to have some missionary in the field working for better conditions?

I could give a great many more such cases in Central Illinois, but let this suffice to awaken a greater interest in bee-culture in Central Illinois. I am at present at South Bartonville, and I find conditions the same here. I visited one bee-keeper here and he said he had 20 colonies. I could not see anything but empty boxes. He is as cruel as a heathen in the South Sea Islands. He brimstones his young colonies in the fall and robs them, and that is the way he gets his honey for the market. So it is no wonder the price of honey does not advance when such muckers are allowed to place such an article on the market and call it honey! And this man claims to be an inventor of some kind of patent hive!

So let us get together and try to get a law passed that will compel a man who keeps bees to put them in some kind of modern hive, and give them protection, as he does his other stock. JOSEPH STANLEY.

South Bartonville, Ill., March 26.

Self-Cure Method for Foul Brood

The writings of Messrs. Dadant and Miller on the Stewart method of treating American foul brood I have read with much interest, as in Philadelphia and adjacent thereto we are having much American foul brood, and I, with my friends, have labored hard to wipe it out of existence. The man whose bees will carry out the dead, ropy, bad-smelling mass, would better run his bee-yards to rearing that stock, and send queens broadcast instead of misstatements.

The honey from American foul brood, if fed to clean colonies, would spread the disease wherever bees got a taste of it; and as to combs, the same would occur. The only safe way is to destroy totally by melting up the combs, and sell the honey labeled as "bad," and give the bees a new and clean home to start with.

I am afraid the publishing of such articles has spread the disease very badly, as I have had ten or a dozen inquiries on the matter, and I have always given them a reason for not trying all foolish sayings of men who *think* they are right. GEO. M. STEELE.

Philadelphia, Pa.

Foul Brood Law for New Jersey.—Through the efforts of the New Jersey Bee-Keepers' Association, the legislature of New Jersey has enacted a Foul Brood Law, which has been signed by the Governor, and is now in force. Inspection work is a branch of the State Entomological Department, and is to be conducted under the supervision of the State Entomologist, Dr. John B. Smith, of New Brunswick, N. J. Copies of the law, and information relative to inspection of apiaries, can be had upon application to Dr. Smith.

ALBERT G. HANN, *Sec.*

Pittstown, N. J.

We congratulate New Jersey bee-keepers upon their success in this matter.

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Please send me two more bee-veils. I have tried all kinds, and yours are best of all.—N.E.FRANCE, Platteville, Wis.

Editorial Comment in Bee-Keepers' Review:—The Advanced Bee-Veil is something I have worn with great comfort the past few weeks. The peculiar feature of the veil is, the edges are held down firmly on the shoulders away from the neck. This does away with all chance of stings, and the hot, suffocating, uncomfortable feeling found in other veils that are tucked in close about the neck.—W. Z. HUTCHINSON.

A. G. Woodman Co., Grand Rapids, Mich.

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FOR SALE—160-lb. honey-kegs at 50c each f. o.b. factory. N. L. Stevens, Moravia, N. Y.

WANTED.—Bees by the pound, nucleus or full colony. J. B. Mason, Mechanic Falls, Me.

SELECTED QUEENS from our honey yards, $1; six, $5. L. E. Kerr, Germania, Ark.

QUEENS from my EDUCATED strain of Golden Italians. $3.00 to $100. 5A4t
Henry W. Britton, Stoughton, Mass.

FOR SALE.—Bees, honey, and bee-supplies. We are in the market for beeswax and honey. 5Atf Ogden Bee & Honey Co., Ogden Utah.

FOR SALE CHEAP.—60 good second-hand 5-gallon cans, 2 in a box. Write to C. Becker, Pleasant Plains, Ill. 4A3t

ITALIAN Untested Queens, 75 cents; Tested, $1.25. Breeders, $5.00 each. E. M. Collyer, 8A12t 75 Broadway, Ossining, N. Y.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address, 12Atf T. F. Bingham, Alma, Mich.

WANTED—A few more 4 and 5 year old Queens; also bees.
C. O. Smith, 5533 Cornell Ave., Chicago, Ill.

RED CLOVER Italian Queens—Untested, $1; select untested, $1.25; tested, $1.50; select tested, $2. Lots of 6, $1 less; 12, $3 less.
5A1 Harry Crofts, Rt. 6, Evansville, Ind.

TWO-FRAME NUCLEI with Golden or Red Clover Queen, $1.50. Safe arrival guaranteed. Rosedale Apiaries. 5A2t
J. B. Marshall, Big Bend, La.

WANTED.—Position with some extensive bee-keeper. Have had experience. Married. Address, Alfred Chapman,
5A1t 1553 W. 51st St., Chicago, Ill.

HIMALAYA BLACKBERRY.—Strong plants of this wonderful berry sent, by mail, 6 for 60 cents; 12 for $1. W. A. Pryal, 101 Pryal Ave., Sta. E, Oakland, Cal.

Improved golden-yellow Italian queens for 1911. Beautiful, hustling, gentle workers. Send for price list to E. E. Lawrence,
4A3t Lock Box 28, Doniphan, Mo.

SPECIAL—800 2-story 10-frame Root Hives, new, in flat, double cover, regular, $2.35 each; in lots of 50, at $1.00 each. F.O.B. Jeresy City. W. C. Morris, Nepperhan Hts., Yonkers, N.Y.

FOR SALE—Golden Queens that produce 50 to 100 percent 5-banded bees. Untested, $1; Tested $1.50; Select Tes, $2; Breeders, $5 to $10
8A12t J. B. Brockwell, Bradley's Store, Va.

ITALIAN QUEENS from imported and home-bred stock—the best in the world, 75c each; 6, $4.00; 12, $7.50. Tested, $1.25 each. Safe arrival guaranteed. N. Forehand,
5Atf Ft. Deposit, Ala.

SECOND-HAND CANS—Good ones, two 5-gal. in a box—5 boxes at 40 cts. a box; 10 boxes at 35 cts. a box; or 20 boxes at 30 cts. a box. Address, George W. York & Co.,
117 N. Jefferson St., Chicago, Ill.

ITALIAN QUEENS, good as the best; untested, 75c; tested, $1.00. Shipments begin April 1st for Bees by the Pound and Nuclei. Write for prices. C. B. Bankston,
5Atf Buffalo, Leon Co., Texas.

I WILL SHIP 15 3-frame Nuclei with Tested, and *Select* Tested honey-queens of 1910, f. o. b. Kenner, La., Am. Express, on date wanted, at $2.75 each, to first order accompanied with five dollars or more.
H. C. Ahlers, Saint Rose, La.

FOR SALE—Extracting and Brood Combs; wired. No disease. Address,
Lock Box 543, Elmhurst, Ill.

GOLDEN QUEENS—very gentle, very hardy, and great surplus gatherers. Untested, five and six band, $1.00; select tested, $3.00; also nuclei and full colonies. Send for circular and price list to Geo. M. Steele,
5A3 30 So. 40th St., Philadelphia, Pa.

GOOD, IMPROVED, fine 20-acre apiary, poultry, fruit, truck, or general farming, Main Clover and Spanish-needle belt. Half mile from city of 8000. With or without bees.
George Bolze, Brookfield, Linn Co., Mo.

Colonies of Italian bees in L. hives, 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dovet., 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2Atf

FOR SALE.—New crop of Alfalfa Seed. 4 lbs. by mail, prepaid, $1.10; 25 lbs. by fgt. or express. 18c; 50 lbs., 17c; 100 lbs., $16. Also hulled White Sweet Clover Seed at the same prices. R. L. Snodgrass,
4Atf Rt. 4, Augusta, Kans.

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal,
117 N. Jefferson St., Chicago, Ill.

FOR SALE—100 pounds Dadant Medium Brood Foundation—5 pounds at 55c; 25 pounds at 50c; 100 pounds, or quantity left, at 48c.
100 cases second-hand five-gallon Cans, in good condition, at 35c; 15 cases or less, at 40c, f. o. b. cars at Kenner, La.
H. C. Ahlers, Saint Rose, La.

FOR SALE.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Qneens—1 for 75 cts.; 6 for $4.20. Tested Queens—1 for $1; 6 for $5.70. 5-Band Queens as follows: Untested Queens—1 for $1.00; 6 for $5.70. Tested Queens—1 for $1.50; 6 for $8.70. "Directions for Building Up Weak Colonies," 10 cts.
2Atf W. J. Littlefield, Little Rock, Ark

BEESWAX WANTED.—We are paying 30 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, GEORGE W. YORK & CO.,
117 N. Jefferson St., Chicago, Ill.

NATIONAL LETTER-HEADS.—N. E. France, Platteville, Wis., General Manager of the National Bee-Keepers' Association, takes orders from members for printed letter-heads. The paper is white, and then printed with black ink, which makes them very neat and business-like. Every member of the National ought to use these letter-heads. They show a list of the Officers and Board of Directors, and, of course, will have added the name and address of the member ordering any of them, at these **prepaid** prices, which are "cash with order:" 250 sheets, $1.30; 500 sheets, $2.00; 1000 sheets, $3.75. All orders are to be sent to Mr. France.

Poultry

FOR SALE—Duston White Wyandottes, $2; 15 eggs, $1; $5 per 100.
11A1y Elmer Gimlin, Taylorville, Ill.

FOR SALE.—Eggs from Hardy Fishel strain White Rocks—15 for $1.00; 100 for $5. Chicks, $10 per 100; $5 per 50. Circular free. 5A1t
B. T. Bosserman, Williamstown, Ohio.

White and Brown Leghorn Eggs and Chicks. 5 other breeds. Prices right. Safe arrival guaranteed. Bred for utility. Catalog free. 4A3t Deroy Taylor Lyons, N. Y.

ROSE COMB Rhode Island Reds, Red Cloud strain; beautiful birds, raised on free range. Eggs for hatching. Write for prices.
5A2t M. L. Main, Grand Valley, Pa.

S. C. R. I. Reds, fine red, large birds' eggs from exhibition pens, $2.00 for 15; pens 2, $1.00 for 15. S. C. Black Minorcas, prize-winners at five big shows, 15 snow-white eggs, $2.00. I. R. Ducks, true fawn and white, 13 eggs, $1.50. Satisfaction guaranteed in all my sales. C. O. Yost, Rt. 4, Winchester, Ind.

UTILITY EGGS—S. C. W. Leghorns, Barred Rocks—$4.00 per 100. Also Pekin or Runner Ducks, $1.00 per 13. Circular free. 4A3t
Premium Poultry Farm, Box 15, LaHarpe, Ill.

CHOICE STOCK.—Strictly pure-bred stock of White Plymouth Rocks, R. C. Rhode Island Reds, and Spangled Hamburgers, bred for laying as well as for show purposes. The White Rocks, and the Reds, are the best all-the-year-around layers, and are heavy and thrifty. The Hamburgers are as pretty chickens as ever were introduced in this country, and are good layers. Eggs, 75c per sitting of 15, of the above breeds. You can't buy better stock at three times my price.
5A2t Herman Fajen, Stover, Mo.

Honey to Sell or Wanted

I WANT good flavored Comb Honey in any kind of boxes; also Extracted. Give price.
3Atf O. N. Baldwin, Baxter Springs, Kan.

FOR SALE.—Choice light-amber extracted honey—thick, well-ripened, delicious flavor. Price 9 cents per lb. in new 60-lb. cans.
2Atf J. P. Moore, Morgan, Ky.

WANTED — Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

WILL PAY for early shipments of good flavored clean honey. Extracted, 60-lb. cans, 8c. Comb in sections, frames or boxes, 15c net weight. F. O. B. Baxter Springs, Kan.
3Atf O. N. Baldwin.

QUEENS

AND BEES—an improved superior strain of Italians is what QUIRIN REARS. All yards winter on summer stands with practically no loss. Our stock is hardy, and will ward off brood diseases.

In the spring of 1899, we sent fifty nuclei to J. D. Dixon, Lafarge, Wis., and on July 20th (same year) he wrote us, saying they did just splendid, as that writing they had already filled their supers, and that he would have to extract them. We have files of testimonials similar to the above.

Prices before July	1	6	12
Select queens	$1 00	$ 5 00	$ 9 00
Tested queens	1 50	8 00	15 00
Select tested queens	2 00	10 00	18 00
Breeders	4 00	....	....
Golden five-band breeders	6 00	....	....
Two-comb nuclei, no queen	2 50	14 00	25 00
Three-comb nuc., no queen	3 50	20 00	35 00
Full colonies on 8 frames	6 00	30 00	....

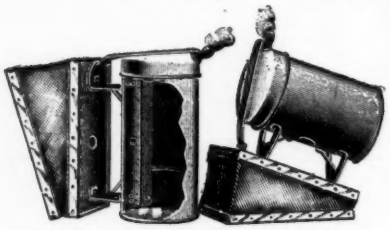
Add price of whatever grade of queen is wanted with nuclei and colonies; nuclei and colonies, if shipped before June 1st, add ¼, or 25%, extra to above price. No order too large, and none too small. Will keep 500 to 1000 queens on hand ready to mail. Safe delivery and pure mating guaranteed. Over 20 years a breeder. Testimonials and circular free. 5Atf

QUIRIN-THE-QUEEN-BREEDER,

BELLEVUE, OHIO

American Bee Journal

Gold Medals St. Louis Exposition, 1904. Jamestown Centennial, 1907.



Danzenbaker × Smoker

Shown above in a standing and reclining position. In the latter the grate is under, that it may have a full head of smoke ready on the job at a touch of bellows.

The perpendicular **Fire-Draft Grate,** forcing air **both ways,** makes and **cools** the smoke, forming a **Double Fire-Wall** for **securely** riveting the **double-braced** brackets to the cup, that is **firmly bolted** to the valveless bellows by **Locked Nuts.**

The **One-Piece** cap **can not clog.** It is the **coolest, cleanest, strongest, best,** and **largest not capacity** of all smokers, selling at one dollar ($1.00). We **guarantee satisfaction** or **return** the price; only three complaints in **six years.**

Dan-z. 3½x7½-inch Prize Smoker, $1.00; by mail.....$1.25
With American Bee Journal $1.00 per year, and Prize Smoker, by mail.... 1.75
Dan-z. 3½x6-inch Victor Smoker, 80c; by mail..... 1.00
With American Bee Journal one year, about 400 pages, by mail..... 1.65

We send **Propolis Shields** with Danzenbaker Hives and Supers, and sell anything in the Bee-line at factory prices, also select three-banded Italian queens and bees.

Please send address of yourself and B-friends for FREE catalogs and prices on Bee-supplies, Bees, Queens, Hives, Sections and Smokers. Address, 4Atf

F. DANZENBAKER,

68-70 Woodside Lane, NORFOLK, VA.

Please mention Am. Bee Journal when writing.

Queens That 'Are Better'

Italians and Banats

Untested, 75c each; $8.00 per dozen.
Tested, $1.25 each; $12.00 per dozen.
Select Breeders from full colonies; $3.00 each.

I also mate Italians with Banat drones from my honey-yards; these I can furnish at above prices.

All are guaranteed pure, and free from disease.

Write for wholesale prices of Bees, Nuclei and Full Colonies; also references. 4A6t

J. A. Simmons, Sabinal, Tex.

Please mention Am. Bee Journal when writing.

Bees for Sale

As usual, we will offer Italian bees in full colonies, and also nuclei for sale the coming season. Full colonies in 8-frame Langstroth hives, at $7.00 each; or in lots of 5 or more, $6.50 per colony; in 10-frame hives, $7.50 each, or in lots or 5 or more, $7.00 each. Three Langstroth-frame nuclei with queens, $3.75 each; or in lots of 5 or more, $3.50 each. Cash with order. These prices are f. o. b. cars 100 miles west of Chicago. Full colonies we expect to be able to ship any time after April 30th, and nuclei after May 30th. "First come first served." Address,

George W. York & Company,

117 N. Jefferson St., Chicago, Ill.

Please mention Am. Bee Journal when writing.

Queens Ready Now!

Not Cheap Queens, But Queens Cheap.

Prices of 3 and 5-Band Queens.

3	Band Untested Queens,	1,	$ 0.75;	6,	$ 4.20
3	" Tested "	1,	1.00;	6,	5.70
3	" Breeder "	1,	5.00;	6,	25.00
5	" Untested "	1,	1.00;	6,	5.70
5	" Tested "	1,	1.50;	6,	8.70
5	" Breeder "	1	10.00;	6,	50.00
3	Nuclei 1-fr. with	Unt. Queen			1.75
3	" 2-fr. "	"			2.25
3	" 1-fr. "	Test.	"		2.00
3	" 2-fr. "	"			2.50
3	Full Colony	Unt.			4.75
3	" "	Test.			5.00
5	Nuclei 1-fr.	Unt.			2.00
5	" 2-fr.	"			3.00
5	" 1-fr.	Test.			2.50
5	" 2-fr.	"			3.50
5	Full Colony	Unt.			8.00
5	" "	Test.			9.50

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

W. J. LITTLEFIELD,

R. F. D. 3 LITTLE ROCK, ARK.

LINE-BRED ITALIANS

My bees being line-bred are very strong in reproductive qualities, and are powerful demonstrators of what can be accomplished by years of careful line-breeding and selection.

Extra-Choice Breeding Queens a Specialty.

The fact that other queen-breeders send to me for fine breeding queens is proof that my stock is O. K. Read what an ex-queen breeder of Lincoln, Nebr., says in part:

LINCOLN, NEBR., Aug. 6, 1910.—You are at liberty to refer to me at any time, and I will cheerfully certify to the quality of your stock and your conscientiousness as a breeder.

Yours, etc.,
FRANK G. ODELL.

I positively send out nothing but vigorous, well-developed queens; or, in other words, the kind that produce.

Untested queens, $1.00 each, or six $5.00; select untested, $1.25 each, or six, $6.00; tested, $2.00 each. Queens ready to send after June 1st. Send for instructive circular.

Walter M. Parrish, Lawrence, Kan.

P. S.—I can furnish either 3-Band or Golden Italian Queens; also Banat Queens mated to Golden drones.

Marshfield Sections

Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.

kept in stock. **Wholesale and Retail.**

Prices sent for asking.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

Please mention Am. Bee Journal when writing.

QUEENS

From the Old Reliable Queen-Breeder

Every Queen represents the highest Breed of Italian Bees. Golden, 5-Banders, and 3-Banded Queens from my Superior Strains, which are prolific, and hustlers for honey. No disease. Untested, $1.00 each; $5.50 for 6.

After July 1st, 75c each; $4.00 for 6.

Tested, $1.50; after June 1st, $1.25 each; $1.00 each after July 1st, or $10 a dozen.

Select Queens of either grade, 25c extra. Breeders, $5.00 each.

Daniel Wurth, Rt.1, Wapato, Wash.

Please mention Am. Bee Journal when writing.

SAVE
Your Queenless Colonies

Introduce a vigorous Tested Queen. We can supply them

By Return Mail for $1.00 Each.

Queens reared last fall from our well-known strain of Italians, and every Queen guaranteed.

Send for Price-List. 4Atf

J. W. K. SHAW & CO.,

LOREAUVILLE, Iberia Parish, LA.

Please mention Am. Bee Journal when writing.

Mexico as a Bee-Country

B. A. Hadsell, of Buckeye, Arizona—one of the largest bee-keepers in the world—has made 5 trips to Mexico, investigating that country as a bee-country, and is so infatuated with it that he is closing out his bees in Arizona. He has been to great expense in getting up a finely illustrated pamphlet describing the tropics of Mexico as a Bee-Man's Paradise, which he will mail free by addressing him— 4A2t

B. A. Hadsell, Lititz, Pa.

Please mention Am. Bee Journal when writing.

Lone Star Apiaries Co.
Italian Queens

From Imported Mothers.

PRICES

One, $1.25; six, $7.00; 12 for $12. Breeders, $3.00.

Another Queen or your money back if not satisfied.

Write for descriptive Circular. 4Atf

LONE STAR APIARIES CO.

BIG FOOT, TEXAS.

ITALIAN Queens Direct from ITALY

—Extensive Apiaries—

E. PENNA, BOLOGNA, ITALY

I send Queens from May 15 to Sept. 30. In Italy we have only Italian bees, so all my Queens are pure and rightly mated. One selected fertile Queen, 90c.; two Queens, $1.60; six Qneens, $4.50; one Breeding Queen, $2.00. Cash with orders. Queens postpaid. *The safe arrival is* NOT *guaranteed.*

Please mention Am. Bee Journal when writing.

American Bee Journal

MARSHFIELD GOODS

BEE-KEEPERS :—

We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**

Our Catalog is free for the asking.

Marshfield Mfg. Co., Marshfield, Wis.

HAND-MADE SMOKERS

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

U. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made.....	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other.....	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.

Patented, May 20, 1879. BEST ON EARTH.

Italian Queens Any Month

In the year, from my Jamacia, B. W. I. yard; from Yonkers after May 1. Italians, Cyprians Carniolans, Caucasians and Banats. Italians—Untested, 75c; Tested, $1.50; Breeders, $3.00. Others 25c extra. Two 5-gallon cans, 50c; 1 gallon, $8.25 per 100; 1 lb. panel and No. 25 bottles, $3.75 a gross in crates; in boxes, 75c extra. Gleanings, Bee-Keepers' Review, A B C, and Langstroth for $3.50; by mail, 50c extra. "The Swarm," by Materlink, by mail, 75c; regular, $1.30. Root's supplies. Send for catalog. 3A1y

W. C. MORRIS, 74 Cortlandt St., NEW YORK, N. Y.

Apiary—Yonkers, N. Y.

SOUTHLAND QUEENS

Bred from the best Goldens. 3-Band from Imported mothers. 25 years' experience as breeder. Untested, 75c. each; Sel. Unt., $1 each; Tested, $1.25 each; Sel. Tested, $1.75 each; Breeders, $3.00 each. Tested Queens are mated 3-Bands. Address,

N. Forehand, Ft. Deposit, Ala.

MOTT'S
Strain of R. C. Italians

My 10-page Descriptive Price-List free. Untested, $1.00 each; $9.00 per doz. Natural Golden, from Imported Italian Stock, $1.10 each; $10 per doz. Reduced rates July 1st. Nuclei and Bees by Pound.

List to select from: Clubbing "The Pearce Method of Bee-Keeping" (price 50c) with a Guaranteed Queen, for $1.10. Books by return; Queens after June 10th. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

3A7t **E. E. Mott, Glenwood, Mich.**

Please mention Am. Bee Journal when writing.

Cannot Surpass Them!

Famous Golden & Red Clover

Queens. Untested, 50 cts.: Select Untested, 75c: Tested, $1.00.

NUCLEI, $1.00 per Frame.

Evansville Bee & Honey Co.,

5A3t EVANSVILLE, IND.

Please mention Am. Bee Journal when writing.

Wanted

Fine Qualities of

White and Light Amber

Extracted Honey

Send samples with Lowest Prices, f. o. b. New York. Also state how it is packed, an the quantity you have.

We are always in the market for

Beeswax

HILDRETH & SEGELKEN,

265-267 Greenwich St.,

NEW YORK, N. Y.

Please mention Am. Bee Journal when writing.

Sweet Clover Seed!

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for $1.40; 25 pounds for $3.25; 50 pounds for $6.00; or 100 pounds for $11.50.

If seed is desired of the Yellow Sweet Clover, add 3 cents per pound to the above prices.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,

117 N. Jefferson St., CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

Golden and 3-Band Italian Bees & Queens

From Extra SELECTED MOTHERS

Prices	1	6	12
Untested.....	$1.00	$ 5.00	$ 9.00
Selected Untested....	1.25	6.50	12.00
Tested	1.50	8.00	15.00
Selected Tested.....	2.00	11.00	21.00
8-Frame Colony.....	6.00	33.00	61.00
3-Frame Nuclei.....	3.75	21.25	40.00
2-Frame Nuclei.....	3.00	17.00	32.00

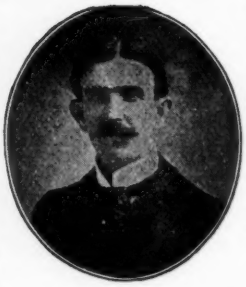
Safe arrival. I am now booking orders for early spring delivery. Twenty-two years' experience. Send your orders to—

E. A. SIMMONS,

3Atf GREENVILLE, ALA.

Please mention Am. Bee Journal when writing.

American Bee Journal



"If goods are wanted quick, send to Pouder"
(Established 1880)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax.** Catalog of supplies free.

Watter S. Pouder, Indianapolis, Ind. **859 Massachusetts Ave.**

CAPON TOOLS

CAPONS bring the largest profits—100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use

PILLING CAPONIZING SETS

Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c, Gape Worm Extractor 25c French Killing Knife 50c. Capon Book Free.*

G. P. Pilling & Son Co., Philadelphia, Pa.

BETTER FRUIT

The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net $200 to $1000 per acre. One Dollar per year. Sample copies free.

Better Fruit Publishing Co. HOOD RIVER, OREGON.

NEW ENGLAND BEE-KEEPERS

Everything in Supplies.
New Goods. Factory Prices.
Save Freight & Express Charges.

Cull & Williams Co.
4Atf PROVIDENCE, R. I.

Cook's Honey-Jar.

With patent AIR-TIGHT SANITARY STOPPER is the Best and Cheapest Honey-Jar made. Sold only by

J. H. M. Cook, 70 Cortlandt St., N. Y. City.

Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc.

☞ The oldest Bee-Supply Store in the East. 2Atf

Root Section Honey-Boxes

Concerning the importance of buying the best, and our ability to furnish sections of a superior quality to bee-keepers everywhere.

Our Section Making Department we believe to be the best equipped in the world. We claim superiority of workmanship in several respects, especially in smoothness of the dovetailing and the ends of the sections. They are polished on both sides in double-surface sanding machines, and are therefore uniform in thickness. Too much importance can not be attached to putting up comb honey in sections of uniform quality, and experienced honey-producers agree that **ROOT SECTIONS** of either A or B grades are a most essential investment.

Price-List of Sections

Root Sections come in several standard styles and sizes—with or without bee-way as follows:

4¼x4¼ BEEWAY SECTIONS.
2 inch, 1 15-16, 1⅞, 1¾ or-7-to-foot wide.

We send 1⅞ style 2 beeway when your order does not specify style or width wanted.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	5 50	5 00

PLAIN, OR NO-BEEWAY SECTIONS.
4¼x4¼x1⅛, 1⅜, or 1⅜; 4x5x1⅜ or 1½; or 3⅝x5x1½.

We send 4¼x1⅛ plain, or what will fit other items in your order, if you do not specify.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	5 25	4 75

One hundred sections weigh about 7 lbs.

Better Order a supply of **Root's Weed Process Foundation** with your sections. 1910 sales on this very superior product totaled nearly 200,000 lbs. Samples with full information and prices may be had upon request.

Remember—We carry complete stocks at this branch and guarantee quick delivery on sections in lots of 100 to 1,000,000, and on foundation and other supplies in any quantity. You ought to know the complete **ROOT LINE** for every appliance for successful bee-keeping. Get the new catalog—brimful of the most modern supplies priced at rock bottom figures for goods of the quality we have manufactured for more than 40 years.

THE A. I. ROOT CO., 213 Institute Place, CHICAGO, ILL.

R. W. BOYDEN, Mgr. **(JEFFREY BUILDING)** **Telephone 1484 North.**

American Bee Journal

Established 1885

We carry an up-to-date Line of

Bee-Keepers' Supplies

Prices the LOWEST in the West. Write us for our 50-page Catalog, ready to mail you. Free for the asking. We can fill your orders promptly and satisfactorily. Our old customers know what we handle; to new ones we can say that we have

The Best Make of Supplies

hence there is nothing to fear as to quality.
Send us your rush orders and get your goods before swarming-time arrives.
Bees and Queens in their season.
Beeswax taken in exchange for Supplies or Cash.

John Nebel & Son Supply Co.

High Hill, Montg. Co., Mo.

Latest Improved Supplies, Incubators & Brooders

Catalogs Free—state which.

Send 25 cts. for Ilustrated Bee-book for beginners—,"A gem," Dis. for early orders.

J. W. Rouse, Mexico, Mo.

Please mention Am. Bee Journal when writing.

Bee-Supplies

We are Western Agents for—— 1Atf

"Falconer"

—— Write for Catalog.

C. C. Clemons Bee-Supply Co.

128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

Queens! Queens!

Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, $1.25; Untested, $1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Goldens.

Address,

JOHN W. PHARR,

Berclair, Goliad Co., Tex.

Wanted —Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. A. A. LYONS,

8A1zt Rt. 5, Box 88, Ft. Collins, Colo.

Missouri-Bred Italian Queens—These queens are bred for results, having all the good qualities and will "show you" by filling the supers with honey. Prices right. Free Circular.

4Aly L. E. ALTWEIN, St. Joseph, Mo.

Special Prices for MAY

Only in Lots of 5 or more, in the Flat, delivered in Minneapolis.

	8-fr.	10-fr.
1-story Dovetailed Hives with Hoffman Frames, Division-Board, Reversible Bottom, Flat tin joint or Higginsville Cover, each	$1.10	$1.20
Above, with Colorado Cover, each	1.20	1.30
Above, with Metal top, double Cover, each	1.25	1.35
Above, with 9½-inch Telescope, with Metal top, double Cover, each	1.50	1.60
Supers for any style Section, with Section-Holders, Separators, Follower and Springs, each	.40	.45
9½-inch deep Extracting Supers with Frames	.65	.70

No Foundation or Sections included at above prices.
Do not delay in sending your order.
If goods are not as represented, will refund your money.
Write for prices in large quantities.

Minnesota Bee-Supply Co.

Nicollet Island MINNEAPOLIS, MINN.

Please mention Am. Bee Journal when writing.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, $3.00; 3-Banded Italians, $2.00.
Golden and 3-Banded Tested, each, $1.25; dozen, $10.00.
Carniolan, Caucasian, and Banats, each, $1.25: dozen, $10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, $7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

LEWIS BEEWARE — Shipped Promptly

ARND HONEY & BEE-SUPPLY CO. NOT INC.

(Successors to the York Honey & Bee-Supply Co.) **Send for Catalog.**

148 West Superior St., CHICAGO, ILL. **Enough said!**

Please mention Am. Bee Journal when writing.

We are first hands for choice California-grown

YELLOW BLOSSOM

MELILOTUS SEED

(Sweet Clover)

For introductory purposes, and that bee-men may test this valuable California product, we offer to deliver at your nearest express office, all charges prepaid by us, one 5-pound package of hulled seed (will sow ⅛ acre) for $1.25; two packages, $2.25; five packages, $5.00.

Samples mailed, and larger quantities quoted.

The seed is from our own harvest, is fully matured, free from noxious weed-seeds, and possesses high germinating qualities.

If you wish other **California Grown Seeds,** write us. 5Atf

MERCANTILE & WAREHOUSE CO.,

141 Moss Ave., Oakland, Cal.

Please mention Am. Bee Journal when writing.

SEND FOR FREE

ADEL Bee and Supply Catalog

You will save money if you buy direct from my factory. I make the finest polished Sections on earth. I want to prove it to you. Send me your order for Sections, or anything in Bee-Supplies.

45,000 Brood-Frames at $1.50 per 100, as long as they last—size 9⅛ inches deep, top-bars. 19 1-16 long, V-shape, or 2-groove and wedge; or Simplicity Frames—all loose-hanging frames.

65,000 Section-Holders at $1.00 per 100, as long as they last. They are nicely dovetailed, and are for 4¼x4¼x1⅛ and 4x5x1⅜ sections.

Car-load Section orders a specialty.

CHAS. MONDENG,

160 Newton Ave., N.,

3A6t **MINNEAPOLIS, MINN.**

Golden Untested Queens

Balance of season, 75c each. Safe arrival.

R. V. COX,

5Atf Rt. 4, GREENVILLE, ALA.

American Bee Journal

Comb Foundation
BEE-KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Speciaity of

Working Your Wax into Comb Foundation for You.

Our Wax Circular and Bee-Supply Price-List Free upon application.

Write us your wants—it is no trouble to us to answer letters.

Gus Dittmer Company, - Augusta, Wisconsin.

Increase Your Honey Crop

By introducing some of OUR **Famous Honey-Queens.** Some of our Colonies produced 250 lbs. of Surplus Honey the past season. No better bees in the **World.** Will sell Queens the following prices, May to Nov.: Untested Queen, $1.00; 6 for $5.50. Tested, $1.50; 6, $8.50. BREEDERS, $5.00 to $10.00 each. 25 years' experience in Queen-Rearing.

Fred Leininger & Son,
2Atf DELPHOS, OHIO.

Early Queens and Late Queens

Bred from pure 3 and 5 banded and Golden Italians. All queens are reared in strong colonies and mated in four-frame nuclei. All orders filled promptly.

Untested....$1.00; six, $4.50; twelve, $ 8.00
Tested..... 1.50; " 7.50; " 13.50

Breeders, $3.00. Three-frame nuclei, $3.00, with price of queen wanted added. Discounts for quantity. 4A6t

A. B. MARCHANT, Sumatra, Fla.

P. S.—Write me for a good proposition on bee-keeping, to the right party.

Mr. Bee-Man

We carry in stock the well-known

Lewis Beeware, Bingham Smokers, Dadant's Foundation, or Anything the Bee-Keeper may need. **Catalog Free.**

Beeswax Wanted.

The C. M. Scott Co., 1004 E. Wash. St. Indianapolis, Ind.

J. E. Hand
The Veteran Queen-Specialist

WILL begin the season of 1911 with greatly improved facilities for rearing the choicest queens. . . . Our queens are not only large, vigorous, handsome, and prolific, but by reason of a judicious system of line breeding they have the power to transmit inherent tendencies of a highly desirable nature, such as hardiness, gentleness, and industry, as well as uniformity of marking, which makes them especially valuable as breeders. Every queen is warranted to produce uniformly marked bees of superior honey-gathering qualities. Don't take chances. Get the real thing. Warranted, $1.00; six, $5.00; dozen, $9.00. Tested, $1.25. Breeders, $5.00. Half pound of bees, no queen, $1.00. Three (L.) frame nucleus, no queen, $3.25. No selection, therefore no culls, and a square deal for all. Valuable information free for your address.

J. E. HAND,
Birmingham, Ohio

Bee-Keeping and Poultry-Raising

Combined, can be made very profitable. A knowledge of the subject, which embraces all the latest and up-to-date information and interesting reading, can be found by reading the American Bee Journal and

The National Poultry Journal

which is published monthly; illustrates and describes how many successful poultry keepers make a good profit from their poultry. Subscription price, 50c the year, or

Four Months' Trial for 10c.

Address,

The National Poultry Journal, Business Office, Elkton, Va.

The Billion Dollar Hen

Yes, that is just where the chicken of today stands, and great fortunes are being made each year with only a few hens and a small piece of idle ground.

But You Must Know How.

The American Hen Magazine is the "A B C and X Y Z in Poultry." It is a poultry magazine with a regular department devoted to Fruit an Bees, and gives the Secrets of Poultrydom in plain language.

Price 25 cents a year. Descriptive Circular Free.

American Hen Magazine, Council Bluffs, Iowa.

Superior Golden Queens
Standard Breed

That have a record of 256 pounds of honey per colony. Gentle to handle, and Beautiful in Color; as hardy as any Strain or Race of Bees, and almost Non-Swarming. We handle them without gloves or veil, and but little smoke.

Untested, $1.25; 6 for $6.00; 12 for $10.00.
No disease.

If you want to know more about them, write us. All tested Queens sold until in June, then we will have them.

T. S. HALL,
Talking Rock, Pickens Co., Ga.

American Bee Journal

HONEY AND BEESWAX

CHICAGO, April 27.—Sales of honey are infrequent these days, and the free shipments that are coming are consequently difficult to place. Price hangs around the same figures we have been quoting of late, but the volume of sales are so small that we may say the market is *non est*. The stock of extracted honey is probably more nearly exhausted than it has been at any time for a number of years past, and if we have a good yield there ought to be an active market in the autumn. There continues to be a good demand for beeswax at 32c, if good color and clean.
R. A. BURNETT & CO.

BOSTON, April 25.—Fancy and No. 1 white comb honey, 14@15c. Fancy white extracted, 11@12c. Beeswax, 30c. BLAKE,-LEE CO.

INDIANAPOLIS, April 26.—There is a good and steady demand here for best grades of comb and extracted honey. Jobbing houses are well supplied, but practically none is now being offered by producers, and it is evident that there will be a shortage before the new crop can arrive. Fancy white comb is being offered at 18c; No. 1 white at 17c; extracted, 11c, with some slight reductions on quantity lots. It is presumed that producers are being paid about 2 cents less than above quotations. Producers of beeswax are being paid 29c cash, or 31c in trade.
WALTER S. POUDER.

CINCINNATI, April 26.—The demand for honey has slackened up considerably in the last month, owing to the approach of warm weather. While there are quantities of extracted honey on the market, the price remains about the same as it was some time back. We are selling the finest honey in 60-pound cans at from 10@11c per pound; amber honey in barrels, from 6@8c, according to the quality and quantity purchased. Comb honey is selling at from $3.75 to $3.85 per case from the store. We are paying 30c cash or 32c in trade for choice, bright yellow beeswax.
THE FRED W. MUTH CO.

KANSAS CITY, MO., April 26.—Receipts of both extracted and comb honey are light; demand light. We quote: No. 1 white comb honey, 24-section cases, per case, $3.25@$3.35; No. 2, $3.00@3.15; No. 1 amber, $3.25; No. 2, $2.75@$3.00. Extracted, white, per lb., 8@8½c; amber, 7@7½c. Beeswax, 25@30c.
C. C. CLEMONS PRODUCE CO.

CINCINNATI, April 26.—The market on fancy white comb honey is exhausted. There is no demand for amber or off-grade comb honey. White extracted honey in 60-lb. cans brings 10c per lb.; light amber in barrels, 7½c. Beeswax is in fair demand at $34 per 100 lbs.

The above are our selling prices, not what we are paying. C. H. W. WEBER & CO.

ZANESVILLE, OHIO, Ayril 27.—There seems to be a slight slackening in the demand for honey here. In a wholesale way best grades of comb bring 18@19c; extracted, 10½@11c. For beeswax 28c cash, or 30c in exchange for merchandise is being offered producers.
EDMUND W. PEIRCE.

NEW YORK, April 27.—We have some demand for fancy and No. 1 white comb honey, and are gradually reducing our stock; lower grades, however—No. 2 white, mixed and buckwheat—are entirely neglected, and almost unsalable at any firm figure. We quote: No. 1 and fancy white comb at from 14@15c per pound; all other grades at from 8@11c per pound, according to quality. Extracted is in good demand, for white and light amber; but little supply, and firm prices. Beeswax quiet at from 29@30c.
HILDRETH & SEGELKEN.

DENVER, April 30.—Demand for honey is lighter than usual for this time of year. We make the following jobbing quotations: No. 1 white comb honey, per case of 24 sections, $3.15; No. 1 light amber, $2.93; No. 2, $2.70. White extracted honey, 9@10c per lb.; light amber, 8¼@9c. We have no amber to quote. We pay 26c cash, or 28c in trade, for average yellow beeswax delivered here.
THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, *Mgr.*

Italian BEES, QUEENS and NUCLEI

Choice Home-Bred and Imported Stock. All my Queens reared in Full Colonies.

Prices for June

One Untes. Queen...	$0.90
" Tested " ..	1.30
" Select Tes. " ..	1.60
" Breeder Queen..	2.45
" Comb Nucleus— no queen.....	.95

Safe arrival guaranteed. For prices on larger quantities, and description of each grade of Queens, send for for free Catalog and Sample Foundation.

J. L. STRONG,
204 E. Logan St., - CLARINDA, IOWA

FOR SALE—Bees and Queens reared from Imported Mothers. Gentle and Hardy.
Simmins' PEDIGREE W. S. Strain SURE HONEY-GETTERS.
American Apiculture and Farming Co., St. Louis, Mo.

ALMOST READY

To what stage have your preparations for the coming season advanced? Are you almost ready? Have you anticipated a generous honey-flow—the big crop we are all looking for? or have you timidly stocked up on sections, extra supers, foundation and other supplies so essential to successful bee-keeping?

Get Ready Now!

You save absolutely nothing by waiting; and, on the other hand, a little delay may mean a serious loss to you. Just the time when you are going to need that small rush order, other bee-keepers, who have also waited, are going to be in a big hurry, too. We never have to remind our friends of our convenient location and well-fitted warehouse in the season of honey-flow. We get orders just as fast as we can possibly attend to them; but this service is not satisfactory, as a rule, to the patron who wants IMMEDIATE shipments. The only way to avoid all danger of delay is to order far enough in advance to get in ahead of the other man's order. Give us a little time to put your goods up in a careful and painstaking way—to make shipments over the cheapest routes—to serve you as we always try to do.

Let us remind you again of our new catalog. This is a book you ought to have. It lists all the approved appliances of modern bee-keeping, and prices them at figures that will save you money. Better not wait longer if you have not received your copy—GET IT TO-DAY!

Remember, if you please, our excellent facilities for prompt and satisfactory shipments. We take care of all orders very promptly—in season or out. Our patrons know that Prompt Shipments and Complete Stocks are Weber recommendations; but we suggest EARLY ORDERS that you may not be disappointed. Even a few hours' time seems terribly long to wait when a few hundred sections are needed. We have experienced these delays—we want to help you guard against them. The ONLY WAY is to ORDER NOW!

Poultry Supplies A special catalog of these Goods, which we will gladly furnish free upon request.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

"Falcon" Foundation

In our hive and bee-keeper's supply plant, foundation manufacture has been a specialty. We were in the business long before the advent of foundation-mills. We manufactured it by the old dipping and press process. "We have grown up with the business." Have had our share in developing it. Numerous experiments and long experience in wax-working have made us masters of the subject. **"Falcon"** foundation is the result—a product unsurpassed by any other make. . . . . Write for samples.

Dewey Foundation Fastener

One of Many

PUYALLUP, WASH., April 10, 1911.

W. T. FALCONER MFG. CO., Chicago, Ill.

Dear Sirs:—Will you please forward me samples of "Falcon" foundation? . . . I have one of your Dewey Foundation Fasteners which I ordered from your New York house, and would not part with same for $10 if I could not have another like it. They work as easy and perfect as a clock.

Yours for success, P. A. NORMAN.

Our three new 1911 carload distributing houses give Dewey Fasteners with orders for three thousand or more **"Falcon"** sections.

The "Falcon" Brand.

A "Falcon" THERMOMETER

With Your Bee - Supplies

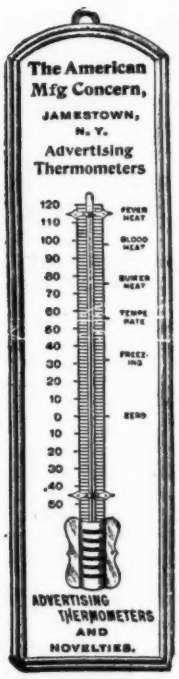
To introduce our three new carload distributing points, a Thermometer is included with first orders of a certain size.

C. C. CLEMONS BEE-SUPPLY CO.,
130 Grand Ave., Kansas City, Mo.

ROSS BROS. CO.,
90 Front St., Worcester, Mass.

W. T. FALCONER MFG. CO.,
117 N. Jefferson St., Chicago, Ill.

Write them for particulars and a copy of our "Red Catalog."



Order "Falcon" Bee-Keepers' Supplies From Your Nearest Dealer

The Fred W. Muth Co., 51 Walnut St., Cincinnati, Ohio.
Deroy Taylor, Lyons, Wayne Co., N. Y.
Cull & Williams Co., 180 Washington, St., Providence, R. I.
Hudson Shaver & Son, Perch River, Jefferson Co., N. Y.
A. M. Applegate, Reynoldsville, Penn.
Clemons Bee-Supply Co., 2d and Grand Ave., Kansas City, Mo.
J. R. Rambo, Collingdale (near Philadelphia), Penn.
Branch, W. T. Falconer Mfg. Co., 117 No. Jefferson St., Chicago, Ill.
Ross Bros., 90 Front St., Worcester, Mass.
J. J. Wilder, Cordele, Ga.

Many other dealers in this country handle our Goods, and they can be purchased in nearly every country on the Globe. Write for name of your nearest dealer.

W. T. FALCONER MFG. CO.

117 N. Jefferson St., CHICAGO, ILL. **Factory: FALCONER, N. Y.**